

SDMS US EPA Region V

Imagery Insert Form

Document ID:

180149

Some images in this document may be illegible or unavailable in SDMS. Please see reason(s) indicated below:

☒ X

Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comments:

COPIES OF SAMPLE LOCATION MAPS



Includes ____ COLOR or ____ RESOLUTION variations.

Unless otherwise noted, these pages are available in monochrome. The source document page(s) is more legible than the images. The original document is available for viewing at the Superfund Records Center.

Specify Type of Document(s) / Comments:



Confidential Business Information (CBI).

This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

Specify Type of Document(s) / Comments:



Unscannable Material:

Oversized ____ or ____ Format.

Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. The original document is available for viewing at the Superfund Records center.

Specify Type of Document(s) / Comments:



Document is available at the EPA Region 5 Records Center.

Specify Type of Document(s) / Comments:



180149

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUL 24 2003

REPLY TO THE ATTENTION OF:

St. Regis Paper Company Site

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

International Paper Company,
c/o Richard R. Rothman, Esq,
Bingham McCutchen, LLP,
Suite 4400
355 South Grand Avenue,
Los Angeles, California
90071-3106

Re: Unilateral Administrative Order for the St. Regis Paper
Company Site.

Dear Sir:

Enclosed please find a Unilateral Administrative Order issued by the U.S. Environmental Protection Agency ("U.S. EPA") under Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"), 42 U.S.C. §9601, et seq.

Please note that the Order allows an opportunity for a conference if requested within 2 business days after issuance of the Order, or if no conference is requested, an opportunity to submit comments within 2 business days of issuance of the Order.

If you have any questions regarding the Order, feel free to contact Tom Turner, Assistant Regional Counsel, at (312) 886-6613 or Sonia Vega, On-Scene Coordinator, at (651) 296-7361.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Wm. E. Munro", is written over the "Sincerely yours," line.

William E. Munro, Director
Superfund Division

Enclosure; Unilateral Administrative Order

cc: State Agency Superfund Program Manager

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 5

V-W- '03-C-748

IN THE MATTER OF:)	Docket No.
St. Regis Paper Company)	
Superfund Site, Cass Lake,)	ADMINISTRATIVE ORDER
Cass County, Minnesota)	PURSUANT TO SECTION 106(a)
)	OF THE COMPREHENSIVE
)	ENVIRONMENTAL RESPONSE,
Respondent:)	COMPENSATION, AND
)	LIABILITY ACT OF 1980,
International Paper Company)	AS AMENDED, 42 U.S.C.
)	§9606(a)

I. JURISDICTION AND GENERAL PROVISIONS

This Order is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §9606(a), and delegated to the Administrator of the United States Environmental Protection Agency ("U.S. EPA") by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A and 14-14-B, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A and 14-14-B.

This Order pertains to property located within the exterior boundaries of the Leech Lake Band of Ojibwe Reservation in Section 15, T145N, R31W in Cass Lake, Cass Lake County, Minnesota known as the "St. Regis Paper Company Site" or the "Site" and adjacent effected properties. The Site is generally depicted on a map attached as Appendix D. This Order requires the Respondent to conduct sampling and analysis activities described herein to investigate the actual or threatened release of hazardous substances at or from the Site.

U.S. EPA has notified the State of Minnesota and the Leech Lake Band of Ojibwe of this action.

II. PARTIES BOUND

This Order applies to and is binding upon Respondent and Respondent's heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Order. Respondent is jointly and severally liable for carrying out all activities required by this Order.

Respondent shall ensure that its contractors, subcontractors, and representatives comply with this Order. Respondent shall be responsible for any noncompliance.

III. FINDINGS OF FACT

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds that:

1. The St. Regis Paper Company Site is located in section 15, T145N, R31W in Cass Lake, Minnesota (Cass County). Portions of the Site were and are leased from Burlington Northern Railroad, portions of the Site were and are owned by the St. Regis Paper Company and portions of the City Dump Area of the Site were and are owned by the City of Cass Lake. This Site is located within the exterior boundaries (as recognized by the United States Department of the Interior, Bureau of Indian Affairs, 67 Fed. Reg. 46330 (July 12, 2002)) of the Leech Lake Band's Tribal Reservation.
2. On January 31, 1985, Champion International Corporation and the St. Regis Paper Company merged. In June 2000, International Paper Company acquired the stock of Champion International Corporation (Champion).
3. The Site includes an area where former wood preserving operations occurred beginning in the late 1950s. The process consisted of pressure treating wood with creosote, pentachlorophenol (PCP) and, periodically, water soluble metal salt preservatives.
4. Wastewater generated as a result of the wood treating operations was discharged to wastewater disposal ponds on the Site between 1957 and 1971. These ponds were covered with sand and replaced by a new wastewater disposal pond which was utilized for the same purpose until 1980. After 1980, wastewater from the

process waste either evaporated in tanks designed for that purpose or was reused in the wood treating process.

5. Sludges from the Wood Treatment Facility Area were disposed of at a landfill located on the eastern edge of the Site.

6. In 1977, the St. Regis Paper Company installed groundwater monitoring wells at the Site. Based on the results of groundwater monitoring, the Minnesota Pollution Control Agency (MPCA) determined that hazardous substances had been released from the Site. Monitoring wells revealed the presence of pentachlorophenol (PCP); polynuclear aromatic hydrocarbons (PAHs); phenols; hexa-, Hepta-, and Octochlorodibenzo-p-dioxin (collectively called PCDD); Polychlorinated dibenzo-p-furans (PCDF); and metals.

7. On September 21, 1984 (49 Fed. Reg. 37070), pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B.

8. In February 1985, MPCA and Champion reached an agreement on remedial measures to be implemented in order to address the threat to public health and the environment posed by the Site. MPCA and Champion signed two Response Orders by Consent under the Minnesota Environmental Response and Liability Act (MERLA), one for the Wood Treatment Facility Area and one for the City Dump Pit Area. These Orders provided for the following: (1) A Remedial Investigation at the Site; (2) A Feasibility Study; (3) Development and Implementation of the Response Action Plan to abate or minimize the release of hazardous substances from the Site; (4) Routine monitoring to determine the effectiveness of the implemented response actions.

9. On March 5, 1986, MPCA issued a Minnesota Enforcement Decision Document (MEDD) for the Wood Treatment Facility Area. The MEDD called for: (1) the installation of ten (10) ground water wells with granular activated carbon treatment which would pump and treat contaminated ground water until acceptable levels in ground water are reached; (2) the construction of a Resource Conservation and Recovery Act (RCRA) on site containment vault for the deposition of hazardous waste sludges and contaminated soil to be excavated during source removal activities; (3) the extension of the Cass Lake Community Water System to residents not currently serviced and potentially affected by ground water contamination from the Site; (4) long term monitoring of the ground water and surface water to determine the effectiveness of the ground water pump out system; (5) long term monitoring of the

site containment vault; (6) long term monitoring of the treated ground water discharge and selected fish species to determine the effectiveness of the ground water treatment system; (7) long term operation and maintenance of the ground water pump out system; and, (8) long term operation and maintenance of the on site containment vault.

10. On July 29, 1986, MPCA issued a MEDD for the City Dump Pit Area. The MEDD called for (1) long-term operation and maintenance of a contaminated groundwater gradient control system, pump out and treatment system which will prevent migration of contaminated groundwater; and (2) long-term monitoring to assess response action performance.

11. On January 24, 1995, EPA issued a CERCLA Section 106 Unilateral Administrative Order (UAO) to Champion for continued performance of response, remedial and long term oversight and maintenance activities at the Site. Champion and IP have complied with the 1995 UAO.

12. In April 1995, MPCA (on behalf of EPA) performed a 5-year review of the Response Actions (RAs) implemented at the Site. The 5-year review identified issues concerning the RAs and recommended steps be taken to address these issues. The 5-year review noted as a concern that soils were excavated during the response actions based upon a visual determination of contamination. Based on the 5-year review, EPA, MPCA and the Tribe identified several areas of the Site requiring further investigation.

13. In September 2000, EPA performed a second five-year review. Among the concerns of this five-year review was that the remedial activities removed visibly contaminated soils and sludges, without performing confirmatory sampling of the soils. The 2000 five-year review recommended additional Site sampling and a risk assessment.

14. In October 2001, EPA performed a field investigation at the Site to further evaluate issues raised as a result of the 2000 five-year review. The investigation involved sampling of surface soil, surface water, groundwater, sediment and fish tissue from different areas of the Site. The results of the soil sampling in the OU1 and OU2 areas indicated elevated levels of dioxin and semi-volatile organic compounds (SVOCs). Six of the soil samples indicated dioxin levels in excess of 1 part per billion (ppb). Some of these samples were collected in the proximity of residences.

IV. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Administrative Record supporting these removal actions, U.S. EPA determines that:

1. The St. Regis Paper Company Superfund Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. §9601(9).
2. The contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. §9601(14).
3. The Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. §9601(21).
4. Respondent International Paper Company is either (a) person who at the time of disposal of any hazardous substances owned or operated the St. Regis Paper Company Superfund Site, or who arranged for disposal or transport for disposal of hazardous substances at the St. Regis Paper Company Superfund Site. Respondent is therefore a liable person under Section 107(a) of CERCLA, 42 U.S.C. §9607(a).
5. The conditions described in the Findings of Fact above constitute an actual or threatened "release" into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§9601(8) and (22).
6. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. §9606(a), and require the Removal and Supplemental Sampling described within.
7. The sampling actions required by this Order, if carried out in compliance with the terms of this Order, are not inconsistent with the NCP and CERCLA.

V. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, U.S. EPA hereby orders that Respondent perform the following actions:

1. Notice of Intent to Comply

Respondent shall notify U.S. EPA in writing within 2 business days after the effective date of this Order of Respondent's irrevocable intent to comply with this Order. Failure of the Respondent to provide such notification within this time period shall be a violation of this Order.

2. Designation of Contractor, Project Coordinator, and On-Scene Coordinator/Remedial Project Manager

Respondent shall perform the sampling actions itself or retain a contractor to implement the sampling actions. Respondent shall notify U.S. EPA of Respondent's qualifications or the name and qualifications of such contractor, whichever is applicable, within 1 business days of the effective date of this Order. Respondent shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 1 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of the Respondent or any of the contractors and/or subcontractors retained by the Respondent. If U.S. EPA disapproves a selected contractor, Respondent shall retain a different contractor within 2 business day following U.S. EPA's disapproval and shall notify U.S. EPA of that contractor's name and qualifications within 3 business days of U.S. EPA's disapproval.

Within 30 calendar days of the effective date of this Order, the proposed contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002), or equivalent documentation as required by EPA.

Within 1 business day after the effective date of this Order, the Respondent shall designate a Project Coordinator who shall be responsible for administration of all the Respondent's actions required by the Order and submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. To the greatest extent possible, the Project Coordinator shall be present on-site or readily available during site work. U.S. EPA retains the right to disapprove of any Project Coordinator named by the Respondent. If U.S. EPA disapproves a selected Project Coordinator, Respondent shall retain a different Project

Coordinator within 2 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 3 business days of U.S. EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by Respondent.

The U.S. EPA has designated Sonia Vega of the Emergency Response Branch, Region 5, as its On-Scene Coordinator ("OSC") and Tim Drexler of the Remedial Branch, Region 5, as its Remedial Project Manager ("RPM"). Respondent shall direct all submissions required by this Order to the OSC at U.S. EPA Region 5, Emergency Response Branch 520 Lafayette Road North, St. Paul, Minnesota 55155-4194., by certified or express mail. Respondent shall also send a copy of all submissions to Tim Drexler, RPM, and Tom Turner and Mony Chabria, Associate Regional Counsels, 77 West Jackson Boulevard, mail codes: SR-6J and C-14J, respectively, Chicago, Illinois, 60604-3590. Respondent is encouraged to make their submissions to U.S. EPA on recycled paper (which includes significant post consumer waste paper content where possible) and using two-sided copies.

3. Work to Be Performed

Respondent shall perform all actions necessary to implement the Work Plan for Removal Site Evaluation and Supplemental Assessment (attached as Appendix A), the Field Sampling Plan for Removal Site Evaluation and Supplemental Assessment (attached as Appendix B), and any additional Sampling Plans (attached as Appendix C). These plans shall be known collectively as 'the Work.'

3.1 Work Plan and Implementation

Within 2 business days after the effective date of this Order, the Respondent shall begin performing the Work set forth above in Paragraph 3.

If U.S. EPA requires revisions to any work plan and/or sampling plan, Respondent shall submit a revised draft Work and Field Sampling Plan within 2 business days of notification. Respondent shall implement such work plan and/or sampling plan (as finally approved in writing by U.S. EPA) in accordance with the schedule approved by U.S. EPA. The work plans, sampling plans, the schedule, and any subsequent modifications shall be fully enforceable under this Order. Respondent shall notify U.S. EPA at least 48 hours prior to performing any on-site work pursuant to the U.S. EPA approved work plans and/or sampling plans.

Respondent shall not commence or undertake any sampling actions at the Site without prior U.S. EPA approval.

3.2 Health and Safety Plan

Within 2 business days after the effective date of this Order, the Respondent shall submit a plan for U.S. EPA review and comment that ensures the protection of the public health and safety during performance of Work under this Order. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 CFR Part 1910. If U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the Work.

3.3 Quality Assurance and Sampling

All sampling and analyses performed pursuant to this Order shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) as meeting the Quality System requirements.

Upon request by U.S. EPA, Respondent shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondent shall provide to U.S. EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondent shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-

2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondent shall allow U.S. EPA, Leech Lake Band of Ojibwe, or the State of Minnesota, or their authorized representatives to take split and/or duplicate samples of any samples collected by Respondent or its contractors or agents while performing Work under this Order. Respondent shall notify U.S. EPA not less than 2 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

3.4 Reporting

Respondent shall submit a monthly written progress report to U.S. EPA concerning activities undertaken pursuant to this Order, beginning 30 calendar days after the effective date of this Order, until termination of this Order, unless otherwise directed by the OSC. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

Any Respondent that owns any portion of the Site, and any successor in title shall, at least 30 days prior to the conveyance of any interest in real property at the Site, give written notice of this Order to the transferee and written notice of the proposed conveyance to U.S. EPA and the State. The notice to U.S. EPA and the State shall include the name and address of the transferee. The party conveying such an interest shall require that the transferee will provide access as described in Section V.4 (Access to Property and Information).

3.5 Final Report

Within 30 calendar days after completion of all removal and supplemental sampling actions required under this Order, the Respondent shall submit for U.S. EPA review a final report summarizing the sampling actions taken to comply with this Order. The final report shall conform to the requirements set forth in Section 300.165 of the NCP. The final report shall also include a good faith estimate of total costs incurred in complying with the Order, a listing of quantities and types of materials sampled or removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate

destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal and supplemental sampling actions (e.g., manifests, invoices, bills, contracts, and permits).

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

4. Access to Property and Information

Respondent shall provide or obtain access as necessary to the Site and all appropriate off-site areas, and shall provide access to all records and documentation related to the conditions at the Site and the activities conducted pursuant to this Order. Such access shall be provided to U.S. EPA employees, contractors, agents, consultants, designees, representatives, and the State of Minnesota and Leech Lake Band of Ojibwe representatives. These individuals shall be permitted to move freely at the Site and appropriate off-site areas in order to conduct activities which U.S. EPA determines to be necessary. Respondent shall submit to U.S. EPA, upon request, the results of all sampling or tests and all other data generated by Respondent or its contractor, or on the Respondent's behalf during implementation of this Order.

Where work under this Order is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall obtain all necessary access agreements within 5 calendar days after the effective date of this Order, or as otherwise specified in writing by the OSC and/or RPM. Respondent shall immediately notify U.S. EPA if, after using its best efforts, it is unable to obtain such agreements. Respondent shall describe in writing its efforts to obtain access. U.S. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response activities described herein, using such means as U.S. EPA deems appropriate.

5. Record Retention, Documentation, Availability of Information

Respondent shall preserve all documents and information, in its possession or the possession of its contractors, subcontractors

or representatives, relating to sampling work performed under this Order, or relating to the hazardous substances found on or released from the Site, for ten years following completion of the sampling actions required by this Order. At the end of this ten year period and at least 90 days before any document or information is destroyed, Respondent shall notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondent shall provide documents and information retained under this Section at any time before expiration of the ten year period at the written request of U.S. EPA. Any information that Respondent is required to provide or maintain pursuant to this Order is not subject to the Paperwork Reduction Act of 1995, 44 U.S.C. §3501 et seq.

6. Off-Site Shipments

All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for analysis, treatment, storage or disposal shall be analyzed, treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 CFR §300.440, 58 Fed. Reg. 49215 (Sept. 22, 1993).

7. Compliance With Other Laws

All actions required pursuant to this Order shall be performed in accordance with all applicable laws and regulations except as provided in Section 121(e) of CERCLA and 40 CFR §§ 300.400(e) and 300.415(j).

8. Emergency Response and Notification of Releases

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondent shall immediately take all appropriate action to prevent, abate or minimize such release, or endangerment caused or threatened by the release. Respondent shall also immediately notify the OSC or RPM, or, in the event of his or her unavailability, shall notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions.

Respondent shall submit a written report to U.S. EPA within 5 business days after each release, setting forth the events that

occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. Respondent shall also comply with any other notification requirements, including those in Section 103 of CERCLA, 42 U.S.C. §9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. §11004.

VI. AUTHORITY OF THE U.S. EPA OSC

The OSC shall be responsible for overseeing the implementation of this Order. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or Respondent at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

U.S. EPA and Respondent shall have the right to change their designated OSC/RPM or Project Coordinator. U.S. EPA shall notify the Respondent, and Respondent shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. Notification may initially be made orally, but shall be followed promptly by written notice.

VII. PENALTIES FOR NONCOMPLIANCE

Violation of any provision of this Order may subject Respondent to civil penalties of up to \$27,500 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. §9606(b)(1). Respondent may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. §9607(c)(3). Should Respondent violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. §9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. §9606.

VIII. REIMBURSEMENT OF COSTS

Respondent shall reimburse U.S. EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondent's implementation of the requirements of this Order. U.S. EPA may submit to Respondent on a periodic basis a bill for

all response costs incurred by the United States with respect to this Order. U.S. EPA's Itemized Cost Summary, or such other summary as certified by U.S. EPA, shall serve as the basis for payment.

Respondent shall, within 30 days of receipt of the bill, remit a cashier's or certified check for the amount of those costs made payable to the "Hazardous Substance Superfund," to the following address:

U.S. Environmental Protection Agency
Program Accounting & Analysis Section
P.O. Box 70753
Chicago, Illinois 60673

Respondent shall simultaneously transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be designated as "Response Costs - (Site Name) Site" and shall reference the payer's name and address, the U.S. EPA site identification number (05J2), and the docket number of this Order.

Interest at a rate established by the Department of the Treasury pursuant to 31 U.S.C. §3717 and 4 CFR §102.13 shall begin to accrue on the unpaid balance from the day after the expiration of the 30 day period notwithstanding any dispute or an objection to any portion of the costs.

IX. RESERVATION OF RIGHTS

Nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

X. OTHER CLAIMS

By issuance of this Order, the United States and U.S. EPA assume

no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order. Each party shall bear its own costs and attorneys fees in connection with the action resolved by this Order.

This Order does not constitute a pre-authorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. §9611(a)(2).

Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondent(s) or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§9606(a), 9607(a).

XI. MODIFICATIONS

Modifications to any plan or schedule may be made in writing by the OSC, or at the OSC's oral direction. If the OSC makes an oral modification, it will be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the OSC's oral direction. The rest of the Order, or any other portion of the Order, may only be modified in writing by signature of the Director, Superfund Division, Region 5.

If Respondent seeks permission to deviate from any approved plan or schedule, Respondent's Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondent shall relieve Respondent of its obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

XII. NOTICE OF COMPLETION

After submission of the Final Report, Respondent may request that U.S. EPA provide a Notice of Completion of the Work required by this Order. If U.S. EPA determines, after U.S. EPA's review of the Final Report, that all of the Work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention), U.S. EPA will provide written notice to the Respondent. If U.S. EPA determines that any sampling activities have not been completed in accordance with this Order, U.S. EPA will notify the Respondent, provide a list of the deficiencies, and require that Respondent modify any work plans or sampling plans to correct such deficiencies. The Respondent shall implement the modified and approved work plan(s) or sampling plan(s) and shall submit a modified Final Report in accordance with the U.S. EPA notice. Failure to implement the approved modified work plan(s) or sampling plan(s) shall be a violation of this Order.

XIII. ACCESS TO ADMINISTRATIVE RECORD

The Administrative Record supporting these sampling actions is available for review during normal business hours in the U.S. EPA Record Center, Region 5, 77 W. Jackson Blvd., Seventh Floor, Chicago, Illinois. Respondent may contact Mony Chabria or Tom Turner, Associate Regional Counsels, at (312)886-6842 or (312) 886-6613, respectively, to arrange to review the Administrative Record. An index of the Administrative Record is attached to this Order.

XIV. OPPORTUNITY TO CONFER

Within 2 business days after issuance of this Order, Respondent may request a conference with U.S. EPA. Any such conference shall be held within 2 business days from the date of the request, unless extended by agreement of the parties. At any conference held pursuant to the request, Respondent may appear in person or be represented by an attorney or other representative.

If a conference is held, Respondent may present any information, arguments or comments regarding this Order. Regardless of whether a conference is held, Respondent may submit any information, arguments or comments (including justifications for any assertions that the Order should be withdrawn against a Respondent), in writing to U.S. EPA within 1 business day following the conference, or within 2 business days of issuance

of the Order if no conference is requested. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondent a right to seek review of this Order. Requests for a conference shall be directed to Mony Chabria or Tom Turner, Associate Regional Counsels, at (312) 886-6842 or (312) 886-6613, respectively. Written submissions shall be directed as specified in Section V.2 of this Order.

XV. SEVERABILITY

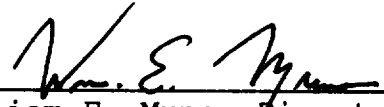
If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XVI. EFFECTIVE DATE

This Order shall be effective 2 business days following issuance unless a conference is requested as provided herein. If a conference is requested, this Order shall be effective 2 business days after the day of the conference.

IT IS SO ORDERED

BY: _____


William E. Muno, Director
Superfund Division
United States
Environmental Protection Agency
Region 5

DATE: _____

7/24/03

ATTACHMENT A**U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION****ADMINISTRATIVE RECORD
FOR
ST. REGIS PAPER COMPANY
CASS LAKE, MN****UPDATE #1
JULY 23, 2003**

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	12/19/94	Ross, T., Champion International Corporation	Martin, L., U.S. EPA	Letter re: Champion's Comments on the Draft CERCLA 106 Order for for the St. Regis/Cass Lake Site	
2	01/24/95	Muno, W., U.S. EPA	Ross, T., Champion International Company	Unilateral Administrative Order re: the St. Regis Paper Company Site w/ Cover Letter	
3	03/01/95	Barr Engineering Company	U.S. EPA	1994 Annual Monitoring Report for Groundwater & Surface Water Monitoring at the St. Regis Paper Company Site	
4	03/27/95	MPCA	Public	Five-Year Review Report for the St. Regis Paper Company Site	
5	04/06/95	Muno, W., U.S. EPA	Warner, J., MPCA	Letter re: U.S. EPA's Approval of the March 1995 Five-Year Review Report for the St. Regis Paper Company Site	
6	06/01/95	Champion International Corporation	U.S. EPA & Leech Lake Band of Chippewa	Report: Discussion of Site Investigation Information Relevant to Five-Year Review Issues for the St. Regis Paper Company Site	
7	03/01/96	Barr Engineering Company	U.S. EPA	1995 Annual Monitoring Report for Groundwater & Surface Water Monitoring at the St. Regis Paper Company Site	
8	03/01/97	Barr Engineering Company	U.S. EPA	1996 Annual Monitoring Report for Groundwater & Surface Water Monitoring at the St. Regis Paper Company Site	

St. Regis Paper Co. Remedial Site
Update #1
Page 2

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
9	03/01/98	Barr Engineering Company	U.S. EPA	1997 Annual Monitoring Report for Groundwater & Surface Water Monitoring at the St. Regis Paper Company Site	
10	04/13/98	Fields, T., U.S. EPA/ OSWER	Addressees	Memorandum re: Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites (OSWER Directive #9200.4-26)	
11	03/01/99	Barr Engineering Company	U.S. EPA	1998 Annual Monitoring Report for Groundwater & Surface Water Monitoring at the St. Regis Paper Company Site	
12	05/26/99	U.S. DOI/ Bureau of Indian Affairs	Kern, L., U.S. EPA	Letter re: Request for Additional Remedial Investigative Work at the St. Regis Paper Company Site	
13	08/05/99	Ross, T., Champion International Corporation	Jennings, M., Leech Lake Band of Ojibwe	Letter re: Champion's Responses to Trustee Questions for the St. Regis Paper Company Site w/ Attachments	
14	03/01/00	Barr Engineering Company	U.S. EPA	1999 Annual Monitoring Report for Groundwater & Surface Water Monitoring at the St. Regis Paper Company Site	
15	08/24/00	Heinert, R., International Paper	Kern, L., U.S. EPA	Letter re: Project Management Change for St. Regis Paper Company Site	
16	09/29/00	U.S. EPA	Public	Second Five-Year Review Report for the St. Regis Paper Company Site	
17	03/01/01	Barr Engineering Company	U.S. EPA	2000 Annual Monitoring Report for Groundwater & Surface Water Monitoring at the St. Regis Paper Company Site	
18	07/11/01	Whitman, C., U.S. EPA	U.S. EPA	Memorandum re: U.S. EPA Policy for the Administration of Environmental Programs on Indian Reservations	

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
19	08/23/01	Du Bey, R., Short Cressman & Burgess, PLLC	U.S. EPA	Letter re: Leech Lake Band of Ojibwe Petition for Assessment of Release for the St. Regis Paper Company Site w/ Attachments	
20	09/00/01	Exponent	International Paper	Work Plan for the U.S. EPA Non-Time Critical Removal Support Split Sampling and Supplemental Sampling Program for the St. Regis Paper Company Site w/ Attachments A1-A4	
21	2001-2002	Enviro-Test Laboratories	File	Sampling Data for Fish Tissue for the St. Regis Paper Company Site for the Period 2001-2002	
22	07/12/02	Federal Register	Public	Notice: Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs (FR: Vol. 67, No. 134, 46328- 46333)	
23	08/23/02	Tetra Tech EM, Inc.	U.S. EPA	Data Evaluation Report w/ Appendices A-E and Attachments 1-23 for the St. Regis Paper Company Site	
24	10/11/02	Podowski, A., U.S. EPA	Kern, L., U.S. EPA	Memorandum re: Review of Data Evaluation Report for the St. Regis Paper Company Site	
25	01/24/03	Enviro-Test Laboratories	File	Analytical Report for Samples Received January 24, 2003 for the St. Regis Paper Company Site	
26	01/31/03	Fleming, E., City of Cass Lake	Kern, L., U.S. EPA	Letter re: January 27, 2003 City Council Meeting Concerning Health Risks Connected with the St. Regis Paper Company Site	
27	02/05/03	Muno, W., U.S. EPA	Nordrum, S., Leech Lake Band of Ojibwe	Letter re: U.S. EPA's Proposed Removal Site Evaluation at the St. Regis Paper Co. Site	

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
28	02/11/03	Alta Analytical Laboratory	Barr Engineering, Inc.	Analytical Results for One Tissue Sample for the St. Regis Paper Company Site	
29	02/13/03	Nordrum, S., Leech Lake Band of Ojibwe	Muno, W., U.S. EPA	Letter re: U.S. EPA's Proposed Removal Site Evaluation at the St. Regis Paper Company Site	
30	02/21/03	Nordrum, S., Leech Lake Band of Ojibwe	Kern, L. & S. Vega, U.S. EPA	Letter re: U.S. EPA's Proposed Removal Site Evaluation at the St. Regis Paper Company Site	
31	02/21/03	Richards, C., University of Minnesota	Kern, L., U.S. EPA	Final Report: Assessing and Communicating Risk: A Partnership to Eval- uate a Superfund Site on Leech Lake Tribal Lands	
32	03/10/03	Kern, L., U.S. EPA	Nordrum, S., Leech Lake Band of Ojibwe	Letter re: Proposed Removal Site Evaluation at the St. Regis Paper Company Site	
33	03/14/03	Drexler, T., U.S. EPA	Nordrum, S., Leech Lake Band of Ojibwe	Letter re: Appropriate Dioxin Cleanup Levels in Soils for the St. Regis Paper Site and Bases of U.S. EPA's Consultation Authority	
34	04/10/03	Yingling, V., Minnesota Department of Health	Drexler, T., U.S. EPA	E-Mail Transmission re: MDH's March 20-21, 2003 Site Visit and Private Well Survey for the St. Regis Paper Company Site	
35	04/16/03	Johnson, M., ATSDR	Drexler, T., U.S. EPA	E-Mail Transmissions re: Testing for Quinoline and Carbazoles at the St. Regis Paper Company Site	
36	04/21/03	Ross, T., International Paper	Drexler, T., U.S. EPA	Letter re: Reanalysis of Cass Lake Whitefish Sample CL-WH-14 w/ Attachment	

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
37	04/21/03	Yingling, V., Minnesota Department of Health	Drexler, T., U.S. EPA	E-Mail Transmission re: Private Well Sampling at the St. Regis Paper Company Site	
38	04/23/03	Nordrum, S., Leech Lake Band of Ojibwe	Drexler, T., U.S. EPA & V. Yingling, MDH	E-Mail Transmission re: Leech Lake Band of Ojibwe's Position Concerning Private Well Sampling at the St. Regis Paper Company Site	
39	04/24/03	Johnson, S., MPCA	Drexler, T., U.S. EPA	E-Mail Transmission re: MPCA's Concurrence with MDH's Recommendation to Shorten the Analyte List for Residences North of the Tracks at the St. Regis Paper Company Site	
40	04/29/03	Ross, T., International Paper	Drexler, T., U.S. EPA	Letter re: IP's Initial Comments on U.S. EPA's Work Plan for Supplemental Assessment at the St. Regis Paper Company Site	
41	04/29/03	Ross, T., International Paper	Vega, S., U.S. EPA	Letter re: IP's Initial Comments on U.S. EPA's Work Plan for Removal Site Evaluation at the St. Regis Paper Company Site	
42	05/01/03	Nordrum, S., Leech Lake Band of Ojibwe	Vega, S., U.S. EPA	E-Mail Transmissions re: Comments on the Field Sampling Plan for Removal Site Evaluation for the St. Regis Paper Company Site w/ Attachment	
43	05/05/03	Levin, I., U.S. EPA	Drexler, T., U.S. EPA	QAPP Addendum for Acute Toxicity Assessment of the NPDES Discharge from the St. Regis Superfund Site w/ Approval Memo- randum	
44	05/06/03	Fleming, E., City of Cass Lake	Drexler, T., U.S. EPA	Letter re: Cass Lake Citizens' Comments on the Proposed Sampling Plans for Human Health Risk and Removal Site Evaluation for the St. Regis Paper Company Site	

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
45	05/07/03	Ross, T., International Paper	Vega, S., U.S. EPA	Letter: IP's Additional Comments on U.S. EPA's Work Plan for Removal Site Evaluation at the St. Regis Paper Company Site	
46	05/08/03	Persell, J., Minnesota Chippewa Tribe	Drexler, T., U.S. EPA	E-Mail Transmission re: Comments on Supplemental Soil Sampling Plan for the St. Regis Paper Company Site	
47	06/02/03	Cullerton, M., Tetra Tech EM, Inc.	Drexler, T., U.S. EPA	Letter re: Surface Soil Samples Collected During the October 2001 Sampling Event at the St. Regis Paper Company Site	
48	06/13/03	Peters, K., Peters & Peters, PLC	Drexler, T., U.S. EPA	Letter re: City of Cass Lake's Comments on IP's June 10, 2003 Work Plan for the St. Regis Super- fund Site	
49	06/16/03	Pena, D., Minnesota Department of Health	Drexler, T., U.S. EPA	E-Mail Transmission re: Comments on IP's Work Plan for the St. Regis Paper Company Site	
50	06/17/03	Steiner, C., U.S. EPA	Drexler, T., U.S. EPA	E-Mail Transmission re: Results of Acute Toxicity Testing for St. Regis WWTP	
51	06/19/03	MPCA	File	MPCA's Comments on IP's Work Plan for Removal Site Evaluation and Supplemental Assessment for the St. Regis Paper Company Site	
52	06/19/03	Persell, J., Minnesota Chippewa Tribe	Drexler, T., U.S. EPA	E-Mail Transmission re: IP's Comments on the Revised Work Plan for the St. Regis Paper Company Site	
53	06/30/03	Vega, S. & T. Drexler, U.S. EPA	Massing, R., Minnesota Department of Health	Letter: US EPA's Response to Comments on IP's Draft Workplan for the St. Regis Paper Company Site	
54	06/30/03	Vega, S. & T. Drexler, U.S. EPA	Johnson, S., MPCA	Letter: US EPA's Response to Comments on IP's Draft Workplan for the St. Regis Paper Company Site	

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
55	06/30/03	Vega, S. & T. Drexler, U.S. EPA	Fleming, E., City of Cass Lake	Letter: US EPA's Response to Comments on IP's Draft Workplan for the St. Regis Paper Company Site	
56	06/30/03	Vega, S. & T. Drexler, U.S. EPA	Nordrum, S., Leech Lake Band of Ojibwe	Letter: US EPA's Response to Comments on IP's Draft Workplan for the St. Regis Paper Company Site	
57	07/07/03	Vega, S. & T. Drexler, U.S. EPA	Ross, T., International Paper	Letter: re U.S. EPA's Comments on the June 23, 2003 Version of the Field Sampling Plan for the Removal Site Evaluation at the St. Regis Paper Company Site	
58	07/11/03	Ross, T., International Paper	Drexler, T., U.S. EPA	Letter re: IP's Comments on U.S. EPA's Split, Co-Located and Indepen- dent Soil and Groundwater Sampling at the St. Regis Paper Company Site	
59	07/18/03	Drexler, T., U.S. EPA	File	Memorandum: Justification for Supplemental Sampling at the St. Regis Paper Company Site	
60	07/18/03	Yingling, V., Minnesota Department of Health	Drexler, T., U.S. EPA	E-Mail Transmission re: Preliminary Review of St. Regis Groundwater Information	
61	07/21/03	Barr Engineering Company	International Paper	Final Report: Residential Well Evaluation - Supple- mental Assessment for the St. Regis Paper Company Site	
62	07/21/03	Persell, J., Minnesota Chippewa Tribe	Drexler, T., U.S. EPA	E-Mail Transmission re: Comments on Data Quality Objectives for IP's Quality Assurance Plan for Sampling and Analysis at the St. Regis Paper Company Site	
63	00/00/00	Muno, W., U.S. EPA	International Paper Company	Unilateral Administrative Order re: St. Regis Paper Company Site (PENDING)	

141756

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION**

**ADMINISTRATIVE RECORD
FOR
ST. REGIS PAPER COMPANY
CASS LAKE, CASS COUNTY, MINNESOTA**

**ORIGINAL
(RECONSTRUCTED)
MARCH 27, 2000**

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	02/26/85	Minnesota Pollution Control Agency (MPCA) and Champion International Corporation	File	Response Order by Consent between Champion Inter- national Corporation and MPCA for the St. Regis Paper Company Treatment Facility Area	76
2	02/26/85	MPCA and Champion International Corporation	File	Response Order by Consent between Champion Inter- national Corporation and MPCA for the St. Regis Paper Company Dumping Area	61
3	03/05/86	MPCA	File	Minnesota Enforcement Decision Document for the St. Regis Paper Company Site	39
4	06/00/86	Barr Engineering Company	Champion International Corporation	Response Action Plan for Contaminated Groundwater at the Cass Lake Treating Facility Site	107
5	06/00/86	Barr Engineering Company	Champion International Corporation	Response Action Plan for Sludge and Contaminated Soil at the Cass Lake Treating Facility Site	219
6	07/29/86	MPCA	File	Minnesota Enforcement Decision Document for the Former Cass Lake City Dump Site	9
7	03/00/87	Barr Engineering Company	Champion International Corporation	Response Action Plan for Contaminated Groundwater at the City Dump Pit Site in Cass Lake	88
8	12/03/93	Neidergang, N., U.S. EPA	Scherkenbach, T., MPCA	Letter re: RCRA Post- Closure Permit for the St. Regis Paper Company Site	2

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
9	01/28/94	Muno, W., U.S. EPA	Ross, T., Champion International Corporation	Letter re: U.S. EPA Strategy for the St. Regis Paper Company Site	2
10	04/00/94	Barr Engineering Company	Champion International Corporation	Annual Monitoring Report for Groundwater and Surface Water Monitoring at the Cass Lake Sites (January-December 1993)	664
11	07/00/94	Barr Engineering Company	Champion International Corporation	Semi-Annual Progress Report for the Cass Lake Sites (January-June 1994)	181
12	09/00/94	Barr Engineering Company	Champion International Corporation	Semi-Annual Report: Con- taminated Soil Containment Vault for the Cass Lake Sites (January-June 1994)	81
13	09/15/94	Traub, J., U.S. EPA	Warner, J., MPCA	Letter re: Change in the Lead Agency Designation for the St. Regis Paper Co. Superfund Site	2
14	09/19/94	Muno, W., U.S. EPA	Scherkenbach, T., MPCA	Letter re: Federal Superfund Jurisdiction over the St. Regis Paper Company Site	2
15	09/30/94	Bremer, K. U.S. EPA	Ross, T., Champion International Corporation	Letter: Recission of U.S. EPA's May 16, 1994 Request for Submittal of a Revised Part B Permit Application for the St. Regis Paper Company Site	2

ATTACHMENT B

LIABILITY FILE INDEX

1. Minnesota Pollution Control Agency, Response Order by Consent for the Wood Treatment Facility, effective February 26, 1985.
2. Minnesota Pollution Control Agency, Response Order by Consent for the Cass Lake City Dump, effective February 26, 1985.
3. Letter from Thomas B. Ross, Manager - Environmental Projects, Champion International Corporation, to Linda Martin, Remedial Project Manager, U.S. EPA, dated December 15, 1994.
4. Letter from Ralph Heinert, Manager, Environmental Projects, International Paper Company, to Linda Kern, Remedial Project Manager, U.S. EPA, dated August 24, 2000.

Appendix A

WORK PLAN
for
REMOVAL SITE EVALUATION
and SUPPLEMENTAL ASSESSMENT
St. Regis Paper Company Superfund Site
Cass Lake, Minnesota

Table of Contents

INTRODUCTION.....	1
BACKGROUND	2
IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN	3
REMOVAL SITE EVALUATION – FORMER NORTH STORAGE AREA AND SOUTHWEST DISPOSAL PIT AREA	4
Objectives.....	4
Technical Approach and Rationale	5
SUPPLEMENTAL ASSESSMENT – FORMER OPERATIONAL AREAS.....	6
Objectives.....	6
Technical Approach and Rationale	6
SUPPLEMENTAL ASSESSMENT – NEARBY OFFSITE RESIDENTIAL SOILS	6
Objectives.....	6
Technical Approach and Rationale	7
SUPPLEMENTAL ASSESSMENT – POTENTIAL OFFSITE WIND DEPOSITION AREAS	7
Objectives.....	7
Technical Approach and Rationale	8
SUPPLEMENTAL ASSESSMENT – PRIVATE WATER WELLS	8
Objectives.....	8
Technical Approach and Rationale	8
QUALITY ASSURANCE.....	9
SCHEDULE.....	9
REFERENCES.....	10

List of Tables

- Table 1. **Soil Sampling and Analysis Summary Removal Site Evaluation and Supplemental Assessment — St. Regis Paper Company Site, Cass Lake, MN**
- Table 2. **Proposed Sample Locations, Depths, and Analytes Removal Site Evaluation and Supplemental Assessment — St. Regis Paper Company Site, Cass Lake, MN**

List of Figures

- Figure 1. **2001 Dioxin/Furan Results – EPA and International Paper Data Sets, St. Regis Paper Company Site, Cass Lake, Minnesota**
- Figure 2. **Sample Locations – Removal Site Evaluation, St. Regis Paper Company Site, Cass Lake, Minnesota**
- Figure 3. **Sample Locations – Supplemental Assessment, St. Regis Paper Company Site, Cass Lake, Minnesota**
- Figure 4. **Well Locations – St. Regis Paper Company Site, Cass Lake, Minnesota**

FINAL WORK PLAN for REMOVAL SITE EVALUATION and SUPPLEMENTAL ASSESSMENT

St. Regis Paper Company Superfund Site Cass Lake, Minnesota

INTRODUCTION

This work plan describes the scope of work for a Removal Site Evaluation (RSE) and a Supplemental Assessment to be performed at the St. Regis Paper Company Site (the Site) in Cass Lake, Minnesota (Figure 1). The Site is a closed wood treating facility that is listed on the National Priorities List (NPL) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which is administered by the U.S. Environmental Protection Agency (EPA). The Site is currently in the operation, maintenance, and monitoring stages of remediation under the regulatory authority of EPA Region 5.

EPA performed a Five-Year Review of the Site in September 2000 and concluded that additional investigation was necessary to determine whether existing remedial measures remain protective of human health and the environment. EPA collected a total of 169 samples of soil, groundwater, surface water, sediment and fish tissue in the fall of 2001. Results of this effort are summarized in a Data Evaluation Report (Tetra Tech 2002). The Leech Lake Band of Ojibwe (the "Leech Lake Band"), under a Support Agency Cooperative Agreement (SACA) with EPA, also collected and analyzed fish tissue samples in 2001. International Paper observed the 2001 sampling effort conducted by EPA and the Leech Lake Band, collected and analyzed splits of a subset of the samples, and collected and analyzed supplemental samples at locations not sampled by EPA. International Paper collected a total of 89 samples. All data collected by International Paper has been provided to EPA.

Among other findings, the 2001 investigation provided information on the distribution and concentrations of dioxins/furans, polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol (PCP), metals, and other chemicals in surface soils within the former limits of operation at the Site and nearby offsite residential properties. Dioxin/furan concentrations exceeded 1 part per billion (ppb) toxic equivalent (TEQ) at five locations in the North Storage Area (NSA) and one location in the Southwest Disposal Pit Area (Figure 1). Dioxin/furan concentrations were below 1 ppb TEQ on all offsite residential properties sampled in 2001.

The focus of the RSE is to delineate the extent of soil with dioxin/furan concentrations exceeding 1 ppb TEQ in the former NSA and Southwest Disposal Pit Area of the Site. The findings of the RSE will be used to determine the need for a possible Removal Action to address dioxins/furans in these areas. EPA's 1998 Office of Solid Waste and Emergency Response (OSWER) directive 9200.4-26 identifies preliminary remediation goals (PRGs) for setting cleanup levels for dioxins/furans in soil at CERCLA and Resource Conservation and Recovery Act (RCRA) sites. Specifically, the OSWER directive recommends a dioxin/furan TEQ of 1 ppb as a starting point

for establishing cleanup levels for residential soils, and a TEQ range of 5–20 ppb as a starting point for establishing cleanup levels for industrial and commercial soils.

The Supplemental Assessment includes additional sampling of surface soils in former operational areas, nearby offsite residential properties, and potential offsite wind deposition areas. The Supplemental Assessment also includes a further evaluation of 14 private water wells that have been identified in the vicinity of the Site. Findings of the Supplemental Assessment will be used to support planning for human health and ecological risk assessments, including development of conceptual site models (CSMs) and identification of any further data gaps to be addressed in a subsequent investigation, if needed.

Building on the findings of EPA's and International Paper's 2001 sampling results, the sections below describe the Site's background, the identification of COPCs for soils associated with the Site, and the objectives and technical approach for each element of the RSE and Supplemental Assessment. A Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP), and Project Health and Safety Plan (PHASP) have also been prepared to support this Work Plan. The FSP, QAPP, and PHASP will be submitted to EPA separately.

Table 1 summarizes the soil sampling and analysis effort. Details for each sampling location are provided in Table 2.

Along with performing the RSE and Supplemental Evaluation described in this Work Plan, International Paper intends to construct fencing and implement additional institutional controls (deed restrictions) on its remaining property holdings at the Site (Figure 1) to limit access and ensure that any future land use is consistent with remedial measures.

BACKGROUND

St. Regis Paper Company operated a wood-treating facility in Cass Lake from 1957 to 1985. Figure 1 shows the main former operating areas at the Site. Creosote and pentachlorophenol were the primary treatment chemicals, with some limited use of soluble metal salts. St. Regis reportedly disposed of sludge from the wood treating facility until 1975 at a disposal pit at the nearby dump owned and operated by the City of Cass Lake. According to the original Remedial Investigation Report for the Site, sludge from cleaning of tanks at the St. Regis facility was also hauled to the Southwest Disposal Pit Area for disposal on two occasions in 1976 (Barr 1985).

EPA listed the Site on the NPL in 1984 and assigned lead agency responsibility to the Minnesota Pollution Control Agency (MPCA). In 1985, Champion International Corporation (successor by merger with St. Regis Paper Company) closed the Cass Lake facility and signed two Response Orders by Consent (Consent Orders) with the MPCA. One order was applicable to the wood treating facility and the second order was applicable to the city dump pit site. Site investigation and remedial action plans developed for both sites by Champion International were consistent with the National Contingency Plan (NCP). The State of Minnesota issued two Minnesota Enforcement Decision Documents (MEDDs) in 1986 that selected the appropriate response actions for the two sites based on the process identified in the Consent Orders and the NCP. Public input was obtained prior to response action selection. Consistent with the NCP and the Consent Orders for the sites, the State of Minnesota determined that the selected response actions were protective of public health, welfare, and the environment.

Champion extended the City of Cass Lake municipal water supply to nearby residents in 1985 and implemented the other selected response actions between 1986 and 1988. A containment vault was constructed on the wood-treating facility property in 1986 to dispose of visibly contaminated soil excavated from the wood-treating facility and city dump pit. The vault was closed in 1987. A groundwater extraction and treatment system was put into operation at the wood-treating facility in January 1987. In the fall of 1988, a groundwater extraction system was also put into operation at the city dump, with extracted groundwater pumped to the groundwater treatment plant at the wood-treating facility. The groundwater extraction and treatment systems have operated continuously since startup. At the request of the City of Cass Lake, Champion donated a large portion of the former facility property to the City in 1988 for the intended purpose of redevelopment as an industrial park.

EPA assumed regulatory authority for the Site in 1995 via a Unilateral Administrative Order (UAO) issued pursuant to Section 106 of CERCLA, as amended. The work to be performed under the UAO involved continuing the operation and maintenance of the remedial systems, and the monitoring and reporting required by the two MEDDs.

As part of the transfer of lead agency responsibility, MPCA prepared the first Five-Year Review for the Site in 1995. International Paper Company purchased Champion International Corporation effective June 20, 2000. As described previously, EPA performed a second Five-Year Review of the Site in September 2000.

IDENTIFICATION OF CHEMICALS TO BE EVALUATED

In 2001, EPA collected and performed the following analyses on soil samples from within the former limits of operation and nearby offsite properties:

- **North Storage Area** – twenty composite samples were collected and analyzed for VOCs, SVOCs, metals, and dioxins/furans.
- **Former Ponds A, B, and C** – four composite samples were collected and analyzed for VOCs, SVOCs, and metals.
- **Former Spray Irrigation Area and Landfill** – two composite samples were collected and analyzed for VOCs, SVOCs, and metals.
- **Seep Location** – one sample was collected and analyzed for VOCs, SVOCs, metals, and dioxins/furans.
- **Southwest Disposal Pit Area** – six composite samples were collected and analyzed for VOCs, SVOCs, metals, and dioxins/furans.
- **Nearby Offsite Residential Properties** – twenty composite samples were collected and analyzed for VOCs, SVOCs, metals, and dioxins/furans.

With the exception of antimony and lead detected at concentrations slightly above human health screening levels at a single residence, concentrations of metals and VOCs were below human

health screening levels in all soil samples collected from the above areas in 2001.¹ International Paper has determined that metals and VOCs are not COPCs for soil within the former limits of St. Regis operations and nearby offsite residences. This determination is based on a comparison of EPA and International Paper soil data collected in 2001 to the conservative and protective human health and ecological screening values developed by EPA (EPA 2001), knowledge of historical operating practices, and a review of previously collected analytical data. Consequently, metals and VOCs are not target analytes for the RSE and Supplemental Assessment.

The 2001 soil sampling results indicated that dioxins/furans, PAHs, and PCP are present in surface soils at concentrations above conservative human health screening levels at some sampling locations within the former North Storage Area, the Southwest Disposal Pit Area, and offsite residences adjacent to the former limits of operations (Figure 1). Further, dioxin/furan concentrations exceeded 1 ppb TEQ at five locations in the North Storage Area and one location in the Southwest Disposal Pit Area. Dioxin/furan concentrations were below 1 ppb TEQ on all nearby offsite residential properties sampled in 2001. Thus, based on the 2001 sampling results, knowledge of operational practices, and previously collected data, International Paper has determined that PAHs, PCP, and dioxins/furans are the only COPCs for soils associated with the Site.

REMOVAL SITE EVALUATION – FORMER NORTH STORAGE AREA AND SOUTHWEST DISPOSAL PIT AREA

Objectives

The purpose of the RSE is to assess the need for a possible removal action to address dioxins/furans in soils of the former NSA and Southwest Disposal Pit Area. To support this decision, the scope of work for RSE is designed to meet the following specific technical objectives:

- Delineate the horizontal extent of dioxins/furans at concentrations greater than 1 ppb TEQ in surface soil within the former NSA and Southwest Disposal Pit Area.
- Evaluate the vertical extent of dioxins/furans in soils at sampling locations in the NSA and Southwest Disposal Pit Area where dioxin/furan concentrations exceeded 1 ppb TEQ in surface soil samples collected in 2001.
- Measure dioxin/furan concentrations in surface soil at all locations in the North Storage Area where 2001 PCP field screening results were greater than 1 ppb, and at a subset of locations where PCP field screening results were less than 1 ppb. (Elevated dioxin/furan concentrations measured in 2001 generally corresponded to locations with elevated PCP field screening results – see Figure 2.)
- Collect a large number of archive samples for possible future analysis. This will help ensure that the study objectives will be met efficiently, and it reduces the likelihood that a

¹ Human health screening levels for VOCs in soil were not formally established for the EPA's 2001 investigation. However, none of the results for VOCs detected in soil samples collected in 2001 exceeded EPA Region 9's Preliminary Remediation Goals for residential soils.

time-consuming and costly field remobilization will be needed to address any data gaps remaining after the first round of laboratory analyses is completed.

The RSE will build on the 2001 sampling results for surface soils in the NSA and Southwest Disposal Pit Area. Although EPA's work plan for the 2001 investigation indicated that samples would be collected from the 0- to 12-inch depth interval below ground surface (bgs), actual composite sample depths were approximately 0-5 inches bgs. Therefore, the 2001 results represent surface soil concentrations of dioxins/furans at the sampled locations and have been used to develop the sampling strategy for the RSE.

Technical Approach and Rationale

The RSE will include the following elements:

- **Composite soil samples** from the 0- to 4-inch interval will be collected and analyzed for dioxins/furans from 24 additional sample locations within the NSA and from two sample locations in the Southwest Disposal Pit Area (Table 2, Figure 2). Composite soil samples from all of the 4- to 12- inch interval, except as provided in Appendix C to the Order, will be collected and archived for possible future analysis from each of these sample locations. The 0- to 4-inch interval was selected, in consultation with EPA, as the most appropriate interval for assessing the potential for direct human exposure to dioxins/furans in surface soils and assessing the need for a possible removal action. Generally, archived samples from the 4- to 12-inch interval will be analyzed at those locations where dioxin/furan concentrations in the overlying 0- to 4-inch interval exceed 1 ppb TEQ. The archived sample will be analyzed based on the distribution of dioxins/furans in the 0- to 4-inch interval. Additional details on sample collection and compositing procedures are specified in the FSP.
- **Vertical soil profiles** consisting of composite soil samples from the 0- to 4-inch, 4- to 12-inch, and 12- to 24-inch intervals will be collected and analyzed for dioxins/furans at six locations in the NSA and one location in the Southwest Disposal Pit Area in the vicinity of locations where dioxin/furan concentrations exceeded 1 ppb TEQ in the 2001 sampling results. Samples from the 12- to 24-inch interval will be archived and analyzed only if the overlying interval samples exceed 1 ppb TEQ. These profiles will be used to assess the vertical extent of dioxins/furans in these locations.
- **Archive composite soil samples** from the 0- to 4-inch and 4- to 12-inch intervals will be collected and archived for potential future analysis from additional locations in the North Storage Area not listed for analysis in Appendix C to the Order. These samples may be analyzed if, upon completion of the initial round of laboratory analyses, it is determined that additional dioxin/furan delineation in surface soils is needed to support the objectives of the RSE. Archived samples may be analyzed based on a review of the initial laboratory data.

SUPPLEMENTAL ASSESSMENT – FORMER OPERATIONAL AREAS

Objectives

The purpose of this element of the Supplemental Assessment is to collect additional data to evaluate the presence and magnitude of PCDD/F, PAHs, and PCP in the surface soils in the primary former operational areas at the Site, where it is possible that these chemicals may have been used or released. Site areas to be addressed in this study element include the former wood-treating area, wastewater pond area, onsite landfill and spray irrigation area, teepee burners, and debarking areas (Figure 1). Resulting data will be screened against the conservative human health and ecological screening criteria for surface soils listed in the QAPP to determine whether further evaluation of these areas is required in the human health and/or ecological risk assessments for the Site.

Technical Approach and Rationale

As part of the 2001 site investigation, composite samples of surface soil from the former wood-treating area, wastewater pond area, and onsite landfill area (Figure 1) were collected and analyzed for VOCs, SVOCs, and metals. Concentrations of these chemicals were relatively low; however, samples from these areas were not analyzed for dioxins/furans. In addition, the 2001 sample coverage was relatively limited, and no samples were collected from the former debarking areas. The Supplemental Assessment of former operational areas is intended to address these data gaps.

To better address future actions that may be influenced by land use and ownership considerations, the Operations Area has been divided into two representative Exposure Areas (EAs)—Former Operations Area 1 (FOA1), which consists of the northern portion of the operations area, and Former Operations Area 2 (FOA2), which consists of the southern portion of the former operations area.

Twelve composite surface soil samples—six from each of the two EAs—will be collected from the 0- to 4-inch depth interval from the gridded sample areas shown on Figure 3. Each composite will consist of five discrete subsamples collected from the four corners and the center of a given sample area. Samples collected from the 0- to 4-inch interval will be analyzed for dioxins/furans, PAHs, and PCP (Figure 3). A composite sample from the 4- to 12-inch interval will also be collected from each sample area and either archived for possible future analysis or analyzed according to Appendix C of the Order. Archived samples may be analyzed based on a review of the laboratory analytical results for the 0- to 4-inch composite samples. Additional details on sample collection and compositing procedures are specified in the FSP.

SUPPLEMENTAL ASSESSMENT – NEARBY OFFSITE RESIDENTIAL SOILS

Objectives

The purpose of this element of the Supplemental Assessment is to evaluate dioxin/furan concentrations in surface soils at all existing offsite residences that were not previously sampled in

2001 in the immediate vicinity of the Site. These residences lie in the area bounded by the BNSF railroad to the north, 3rd Street to the south, Highway 371 to the west, and the former wood-treating facility to the east (Figure 3). Results will be used to support an assessment of potential risks to human health associated with exposure to dioxins/furans in residential soils, and to focus any necessary future data gathering.

Composite surface soil samples were collected and analyzed from twenty nearby offsite residential sampling locations during the 2001 field investigation. Dioxin/furan concentrations were below 1 ppb TEQ at all twenty locations, although concentrations exceeded reference area concentrations and conservative human health screening levels in many samples.

The following specific technical objectives have been established for this element of the Supplemental Assessment:

- Evaluate concentrations of dioxins/furans in surface soils at five existing offsite residences that were not previously sampled in 2001 within the area described above (Figure 3).
- Evaluate concentrations of dioxins/furans in surface soils at each of the two offsite residences that comprised sample RES16 in the 2001 investigation. The dioxin/furan concentration for the RES16 composite collected in 2001 was 449 parts per trillion (ppt) TEQ. Therefore, additional sampling is needed to characterize dioxin/furan concentrations individually at locations RES16a and RES16b (Figure 3).

Technical Approach and Rationale

Five-point composite samples of surface soils (0- to 4-inch interval) will be collected and analyzed for dioxins/furans at each the seven offsite residential properties shown on Figure 3. A composite from the 4- to 8-inch interval will be collected and archived, except as provided in Appendix C of the Order, from each location for possible future analysis. The archived sample may be analyzed based on a review of the laboratory analytical results for the 0- to 4-inch composite samples. Additional details on sample collection and compositing procedures are specified in the FSP.

SUPPLEMENTAL ASSESSMENT – POTENTIAL OFFSITE WIND DEPOSITION AREAS

Objectives

The purpose of this element of the Supplemental Assessment is to collect data to evaluate whether wind may have transported dioxins/furans from the Site to offsite soils at concentrations that may pose an unacceptable risk to human health. These pathways will be assessed by sampling of potential offsite wind deposition areas immediately north and south of the former limits of St. Regis operations.

Results will be used to develop a conceptual site model for the human health risk assessment and to determine if any further sampling of offsite soils is necessary.

Technical Approach and Rationale

Composite samples of surface soils (0- to 4-inch interval) will be collected and analyzed for dioxins/furans from seven areas in the potential Northwesterly Offsite Wind Depositional Area (south of the Site) and five areas in the potential Southerly Offsite Wind Depositional Area (north of the Site). A composite from the 4- to 12-inch interval will be collected from each composite area and, except as provided in Appendix C of the Order, archived from each location for possible future analysis. Archived samples may be analyzed based on a review of the laboratory analytical results for the 0- to 4-inch composite samples.

The composite samples will be collected by establishing a uniform grid over each of the sample compositing areas shown Figure 3. Subsamples from each grid node will be collected and composited to generate a single sample for each area. This compositing approach is intended to provide good spatial coverage and to develop representative data for dioxin/furan concentrations in offsite soil in the potential offsite wind depositional areas. Additional details on sample collection and compositing procedures are specified in the FSP.

SUPPLEMENTAL ASSESSMENT – PRIVATE WATER WELLS

Objectives

The purpose of this element of the Supplemental Assessment is to take an appropriate course of action for private water wells in the general vicinity of the Site. In February and March 2003, the Minnesota Department of Health (MDH) conducted interviews with residents near the St. Regis site. Based on these interviews, the MDH identified 14 private wells in the vicinity of the former North Storage Area, the residential area north of the BNSF railroad, and an area south of Fox Creek near the City Dump Area (Figure 4).

Technical Approach and Rationale

Available information was compiled and evaluated for the 14 private wells identified by MDH in the general vicinity of the Site. This well evaluation included some or all of the following activities:

- 1) Review of available well construction information, including depth, diameter, screened interval, lithology, and mechanical pumping equipment.
- 2) Review of hydrogeologic conditions, including subsurface stratigraphy, general groundwater flow directions, any local pumping activities that may influence groundwater flow conditions, and the groundwater flow model developed for the Site.
- 3) Review of historical groundwater monitoring data.

This information was presented in a brief technical memorandum submitted to EPA, MDH, MPCA, the Leech Lake Band, and the City of Cass Lake.

All wells identified by MDH will be either sampled or sealed as provided in Appendix C to the Order. Sampling and analysis of operable private wells in the Central Area determined to be necessary because authorization is not obtained for International Paper to seal the wells in accordance with the MDH well construction code will be conducted as part of the Supplemental Assessment. Target analytes will be PAHs and PCP. Detailed sampling methods and analytical procedures are specified in the FSP and QAPP.

QUALITY ASSURANCE

Field sampling activities will be conducted in accordance with the project QAPP. Field duplicate samples and field equipment rinsate blanks will be collected at an approximate frequency of one for every ten investigative samples. Approximately one of every twenty investigative samples will be designated as matrix spike/matrix spike duplicates. All field and laboratory data generated during the RSE and Supplemental Assessment will undergo data quality assurance review according to the procedures specified in the QAPP.

SCHEDULE

The table below outlines the duration of each project element and the completion deadlines.

Project Element		Project Element Duration	Deadlines from Effective Date of Order
	Field Mobilization	3 business days	3 business days
	RSE Sampling	2 weeks	3 weeks
	Supplemental Assessment Sampling	2 weeks	5 weeks
	Laboratory Analysis of RSE Samples	4 weeks	7 weeks
	Laboratory Analysis of Supplemental Assessment Samples	4 weeks	9 weeks
	Data Quality Assurance Review for RSE	2 weeks	9 weeks
	Data Quality Assurance Review for Supplemental Assessment	3 weeks	12 weeks
	Preparation and Submittal of Data Reports (including validated data summary) for the RSE and Supplemental Assessment	4 weeks	16 weeks

REFERENCES

Barr. 1985. Remedial Investigation/Alternatives Report: Cass Lake Sites. Prepared for Champion International/Wheeler Division by Barr Engineering Company, Minneapolis, MN. April 1985.

Tetra Tech. 2002. Data Evaluation Report: St. Regis Company Site, Cass Lake, Minnesota. Prepared for U.S. EPA Region 5 by Tetra Tech EM, Inc.

U.S. EPA. 1996. Soil Screening Guidance: Technical Background Document. EPA/540/R-95/128. U.S. Environmental Protection Agency, Washington, DC.

**Table 1. Soil Sampling and Analysis Summary
Removal Site Evaluation and Supplemental Assessment —
St. Regis Paper Company Site, Cass Lake, MN**

Sampling Area	Study Element	Parameter	Analytical Samples			Archive Samples
			Investigative ^a	Field Duplicate (1/10) ^b	Equipment Rinse (1/10) ^{b,c}	Total ^d
North Storage Area	Removal Site Evaluation	PCDD/F	53	5	5	63
Southwest Disposal Pit Area	Removal Site Evaluation	PCDD/F	5	1	1	7
Former Process Areas	Supplemental Assessment	PCDD/F	16	2	2	20
Offsite Residential Area	Supplemental Assessment	PCDD/F	8	1	1	10
Northwestern Offsite Deposition Area	Supplemental Assessment	PCDD/F	15	1	1	17
Southern Offsite Deposition Area	Supplemental Assessment	PCDD/F	6	0	0	6
Total			103	10	10	123
						68

Notes:

NA = Not applicable

QA = Quality assurance

QC = Quality control

- a Investigative samples are collected to characterize the site.
- b QA/QC samples are collected to assess the quality of sampling and analysis procedures. Field duplicates and equipment rinsates will be collected at an approximate frequency of 1 per every 10 investigative samples.
- c Equipment rinsates will be collected only when nondedicated or nondisposable equipment is reused after decontamination.
- d Total number of samples equals the number of investigate samples plus the number of QA/QC samples.
- e Samples will be archived at the analytical laboratory by freezing at -20° C.

**Table 2. Sample Locations, Depths, and Analytes
Removal Site Evaluation and Supplemental Assessment —
St. Regis Paper Company Site, Cass Lake, MN**

Station ID	Area	Study Element	PCP Screening Result (ug/kg)	Analytical Samples				Archive Samples				Analytes	Sampling Rationale
				0-4 in.	4-12 in.	12-24 in.		0-4 in.	4-8 in.	4-12 in.	12-24 in.		
AB4-5	North Storage	Removal Eval	22.61, 26.26	x	x						x	PCDD/F	Vertical profile
AB-6	North Storage	Removal Eval	3.27	x	x						x	PCDD/F	Vertical profile
A7-8	North Storage	Removal Eval	1.58	x						x		PCDD/F	Additional delineation
A10-11	North Storage	Removal Eval	2.72	x	x						x	PCDD/F	Vertical profile
A11-12	North Storage	Removal Eval	3.15	x	x							PCDD/F	Vertical profile
A12-14	North Storage	Removal Eval	1.07	x	x						x	PCDD/F	Additional delineation
A17-19	North Storage	Removal Eval	1.14	x						x		PCDD/F	PCP screening > 1 ug/kg
A19-20	North Storage	Removal Eval	1.85	x						x		PCDD/F	PCP screening > 1 ug/kg
A20-22	North Storage	Removal Eval	1.46	x	x							PCDD/F	PCP screening > 1 ug/kg
AB3-4	North Storage	Removal Eval	0.59, 0.81	x						x		PCDD/F	Additional delineation
AC6-7	North Storage	Removal Eval	0.93, 0.67					x		x			Archive
AC8-9	North Storage	Removal Eval	1.3, 1.98	x						x		PCDD/F	PCP screening > 1 ug/kg
AC9-10	North Storage	Removal Eval	1.47, 1.86	x						x		PCDD/F	PCP screening > 1 ug/kg
B2-3	North Storage	Removal Eval	1.26	x						x		PCDD/F	PCP screening > 1 ug/kg
C11-12	North Storage	Removal Eval	1.69	x						x		PCDD/F	Additional delineation
C12-14	North Storage	Removal Eval	1.27	x						x		PCDD/F	Additional delineation
C23-24	North Storage	Removal Eval	ND	x						x			Archive
C25-26	North Storage	Removal Eval	0.07					x		x			Archive
C3-4	North Storage	Removal Eval	1.53	x	x							PCDD/F	Additional delineation
C4-5	North Storage	Removal Eval	0.48	x						x		PCDD/F	Additional delineation
C5-6	North Storage	Removal Eval	0.74	x						x		PCDD/F	Additional delineation
D10-11	North Storage	Removal Eval	0.31					x		x			Archive
D13-15	North Storage	Removal Eval	0.84					x		x			Archive
D20-21	North Storage	Removal Eval	1.05	x						x		PCDD/F	PCP screening > 1 ug/kg
D27-29	North Storage	Removal Eval	ND	x						x		PCDD/F	Archive
D28-9	North Storage	Removal Eval	2.38, 6.81	x	x							PCDD/F	PCP screening > 1 ug/kg
E11-13	North Storage	Removal Eval	3.45	x						x		PCDD/F	PCP screening > 1 ug/kg
E13-15	North Storage	Removal Eval	1.68	x						x		PCDD/F	PCP screening > 1 ug/kg

Station ID	Area	Study Element	Analytical Samples						Archive Samples						Analytes	Sampling Rationale	
			PCP Screening Result (ug/kg)	0-4			12-24			0-4			12-24				
				In.	In.	In.	In.	In.	In.	In.	In.	In.	In.				
E18-19	North Storage	Removal Eval.	—	x	x									PCDD/F	Additional delineation		
E24-25	North Storage	Removal Eval.	1.9	x	x									PCDD/F	PCP screening > 1 ug/kg		
E27-28	North Storage	Removal Eval.	0.16						x						Archive		
F27-29	North Storage	Removal Eval.	1.61, 1.17	x	x									PCDD/F	PCP screening > 1 ug/kg		
H25-26	North Storage	Removal Eval.	ND	x											Archive		
H27-29	North Storage	Removal Eval.	0.23, 0.1						x						Archive		
I26-27	North Storage	Removal Eval.	ND	x										PCDD/F	Additional delineation		
I27-29	North Storage	Removal Eval.	0.2, 0.78	x										PCDD/F	Additional delineation		
J25-26	North Storage	Removal Eval.	ND						x						Archive		
J26-27	North Storage	Removal Eval.	1.49	x	x	x								PCDD/F	Vertical profile		
J27-29	North Storage	Removal Eval.	8.27, 18.27	x	x	x								PCDD/F	Vertical profile		
J29-30	North Storage	Removal Eval.	—	x										PCDD/F	Additional delineation		
SW-7	SW Disposal Pit	Removal Eval.		x	x							x		PCDD/F	Vertical profile		
SW-41	SW Disposal Pit	Removal Eval.		x								x		PCDD/F	Additional delineation		
SW-42	SW Disposal Pit	Removal Eval.		x								x		PCDD/F	Additional delineation		
SW-43	SW Disposal Pit	Removal Eval.							x			x			Archive		
FOA1-COMP1	Fmr. Proc. Areas	Supp. Assess.		x								x		PCDD/F, PAHs, PCP	Surface soil characterization		
FOA1-COMP2	Fmr. Proc. Areas	Supp. Assess.		x	x									PCDD/F, PAHs, PCP	Surface soil characterization		
FOA1-COMP3	Fmr. Proc. Areas	Supp. Assess.		x								x		PCDD/F, PAHs, PCP	Surface soil characterization		
FOA1-COMP4	Fmr. Proc. Areas	Supp. Assess.		x								x		PCDD/F, PAHs, PCP	Surface soil characterization		
FOA1-COMP5	Fmr. Proc. Areas	Supp. Assess.		x	x									PCDD/F, PAHs, PCP	Surface soil characterization		
FOA1-COMP6	Fmr. Proc. Areas	Supp. Assess.		x										PCDD/F, PAHs, PCP	Surface soil characterization		
FOA2-COMP1	Fmr. Proc. Areas	Supp. Assess.		x								x		PCDD/F, PAHs, PCP	Surface soil characterization		
FOA2-COMP2	Fmr. Proc. Areas	Supp. Assess.		x	x									PCDD/F, PAHs, PCP	Surface soil characterization		
FOA2-COMP3	Fmr. Proc. Areas	Supp. Assess.		x								x		PCDD/F, PAHs, PCP	Surface soil characterization		
FOA2-COMP4	Fmr. Proc. Areas	Supp. Assess.		x								x		PCDD/F, PAHs, PCP	Surface soil characterization		
FOA2-COMP5	Fmr. Proc. Areas	Supp. Assess.		x										PCDD/F, PAHs, PCP	Surface soil characterization		
FOA2-COMP6	Fmr. Proc. Areas	Supp. Assess.		x	x									PCDD/F, PAHs, PCP	Surface soil characterization		
RES16A	Offsite Resid.	Supp. Assess.		x								x		PCDD/F	Residential soil characterization		
RES16B	Offsite Resid.	Supp. Assess.		x										PCDD/F	Residential soil characterization		
RES24	Offsite Resid.	Supp. Assess.		x	x									PCDD/F	Residential soil characterization		
RES28	Offsite Resid.	Supp. Assess.		x										PCDD/F	Residential soil characterization		
RES36	Offsite Resid.	Supp. Assess.		x								x		PCDD/F	Residential soil characterization		

Station ID	Area	Study Element	PCP Screening Result (ug/kg)	Analytical Samples						Archive Samples				Analytes	Sampling Rationale
				0-4 in.	4-12 in.	12-24 in.				0-4 in.	4-8 in.	4-12 in.	12-24 in.		
RES39	Offsite Resid.	Supp. Assess.		x									PCDD/F	Residential soil characterization	
RES40	Offsite Resid.	Supp. Assess.		x					x				PCDD/F	Residential soil characterization	
NMWD-01	NW Depositional	Supp. Assess.		x									PCDD/F	Offsite transport evaluation	
NMWD-02	NW Depositional	Supp. Assess.		x	x								PCDD/F	Offsite transport evaluation	
NMWD-03	NW Depositional	Supp. Assess.		x									PCDD/F	Offsite transport evaluation	
NMWD-04	NW Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
NMWD-05	NW Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
NMWD-06	NW Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
NMWD-07	NW Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
SWD-01	S Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
SWD-02	S Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
SWD-03	S Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
SWD-04	S Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
SWD-05	S Depositional	Supp. Assess.		x						x			PCDD/F	Offsite transport evaluation	
EF29-30	North Storage	Additional		x									PCDD/F	Surface soil characterization	
AC27-28	North Storage	Additional		x									PCDD/F	Surface soil characterization	
DE25-26	North Storage	Additional		x									PCDD/F	Surface soil characterization	
FH22-23	North Storage	Additional		x									PCDD/F	Surface soil characterization	
JL18-21	North Storage	Additional		x									PCDD/F	Surface soil characterization	
SW-	SW Disposal Pit	Additional		x									PCDD/F	Surface soil characterization	
BNSF-01	NW Depositional	Additional		x									PCDD/F	Offsite transport evaluation	
BNSF-02	NW Depositional	Additional		x									PCDD/F	Offsite transport evaluation	
BNSF-03	NW Depositional	Additional		x									PCDD/F	Offsite transport evaluation	
BNSF-04	NW Depositional	Additional		x									PCDD/F	Offsite transport evaluation	
BNSF-05	NW Depositional	Additional		x									PCDD/F	Offsite transport evaluation	
BNSF-06	NW Depositional	Additional		x									PCDD/F	Offsite transport evaluation	
GS-01	NW Depositional	Additional		x									PCDD/F	Offsite transport evaluation	
TH-01	S Depositional	Additional		x									PCDD/F	Offsite transport evaluation	



LEGEND

- Ponds Sampled October 2001
- GDD Nickel
- ▲ TEGs - Winter/Summer 2001
- TEGs - Spring 2001
- TEGs - Summer 2001
- TEGs - Winter 2001
- TEGs - Spring 2002
- TEGs - Summer 2002
- TEGs - Winter 2003
- TEGs - Spring 2004
- TEGs - Summer 2004
- TEGs - Winter 2005
- TEGs - Spring 2006
- TEGs - Summer 2006
- TEGs - Winter 2007
- TEGs - Spring 2008
- TEGs - Summer 2008
- TEGs - Winter 2009
- TEGs - Spring 2010
- TEGs - Summer 2010
- TEGs - Winter 2011
- TEGs - Spring 2012
- TEGs - Summer 2012
- TEGs - Winter 2013
- TEGs - Spring 2014
- TEGs - Summer 2014
- TEGs - Winter 2015
- TEGs - Spring 2016
- TEGs - Summer 2016
- TEGs - Winter 2017
- TEGs - Spring 2018
- TEGs - Summer 2018
- TEGs - Winter 2019
- TEGs - Spring 2020
- TEGs - Summer 2020
- TEGs - Winter 2021
- TEGs - Spring 2022
- TEGs - Summer 2022
- TEGs - Winter 2023
- TEGs - Spring 2024
- TEGs - Summer 2024
- TEGs - Winter 2025
- TEGs - Spring 2026
- TEGs - Summer 2026
- TEGs - Winter 2027
- TEGs - Spring 2028
- TEGs - Summer 2028
- TEGs - Winter 2029
- TEGs - Spring 2030
- TEGs - Summer 2030
- TEGs - Winter 2031
- TEGs - Spring 2032
- TEGs - Summer 2032
- TEGs - Winter 2033
- TEGs - Spring 2034
- TEGs - Summer 2034
- TEGs - Winter 2035
- TEGs - Spring 2036
- TEGs - Summer 2036
- TEGs - Winter 2037
- TEGs - Spring 2038
- TEGs - Summer 2038
- TEGs - Winter 2039
- TEGs - Spring 2040
- TEGs - Summer 2040
- TEGs - Winter 2041
- TEGs - Spring 2042
- TEGs - Summer 2042
- TEGs - Winter 2043
- TEGs - Spring 2044
- TEGs - Summer 2044
- TEGs - Winter 2045
- TEGs - Spring 2046
- TEGs - Summer 2046
- TEGs - Winter 2047
- TEGs - Spring 2048
- TEGs - Summer 2048
- TEGs - Winter 2049
- TEGs - Spring 2050
- TEGs - Summer 2050
- TEGs - Winter 2051
- TEGs - Spring 2052
- TEGs - Summer 2052
- TEGs - Winter 2053
- TEGs - Spring 2054
- TEGs - Summer 2054
- TEGs - Winter 2055
- TEGs - Spring 2056
- TEGs - Summer 2056
- TEGs - Winter 2057
- TEGs - Spring 2058
- TEGs - Summer 2058
- TEGs - Winter 2059
- TEGs - Spring 2060
- TEGs - Summer 2060
- TEGs - Winter 2061
- TEGs - Spring 2062
- TEGs - Summer 2062
- TEGs - Winter 2063
- TEGs - Spring 2064
- TEGs - Summer 2064
- TEGs - Winter 2065
- TEGs - Spring 2066
- TEGs - Summer 2066
- TEGs - Winter 2067
- TEGs - Spring 2068
- TEGs - Summer 2068
- TEGs - Winter 2069
- TEGs - Spring 2070
- TEGs - Summer 2070
- TEGs - Winter 2071
- TEGs - Spring 2072
- TEGs - Summer 2072
- TEGs - Winter 2073
- TEGs - Spring 2074
- TEGs - Summer 2074
- TEGs - Winter 2075
- TEGs - Spring 2076
- TEGs - Summer 2076
- TEGs - Winter 2077
- TEGs - Spring 2078
- TEGs - Summer 2078
- TEGs - Winter 2079
- TEGs - Spring 2080
- TEGs - Summer 2080
- TEGs - Winter 2081
- TEGs - Spring 2082
- TEGs - Summer 2082
- TEGs - Winter 2083
- TEGs - Spring 2084
- TEGs - Summer 2084
- TEGs - Winter 2085
- TEGs - Spring 2086
- TEGs - Summer 2086
- TEGs - Winter 2087
- TEGs - Spring 2088
- TEGs - Summer 2088
- TEGs - Winter 2089
- TEGs - Spring 2090
- TEGs - Summer 2090
- TEGs - Winter 2091
- TEGs - Spring 2092
- TEGs - Summer 2092
- TEGs - Winter 2093
- TEGs - Spring 2094
- TEGs - Summer 2094
- TEGs - Winter 2095
- TEGs - Spring 2096
- TEGs - Summer 2096
- TEGs - Winter 2097
- TEGs - Spring 2098
- TEGs - Summer 2098
- TEGs - Winter 2099
- TEGs - Spring 2100
- TEGs - Summer 2100

Figure 1
St. Regis Paper Company Site
Crete Lake, Minnesota
June 24, 2000

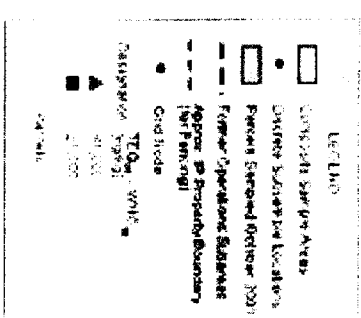
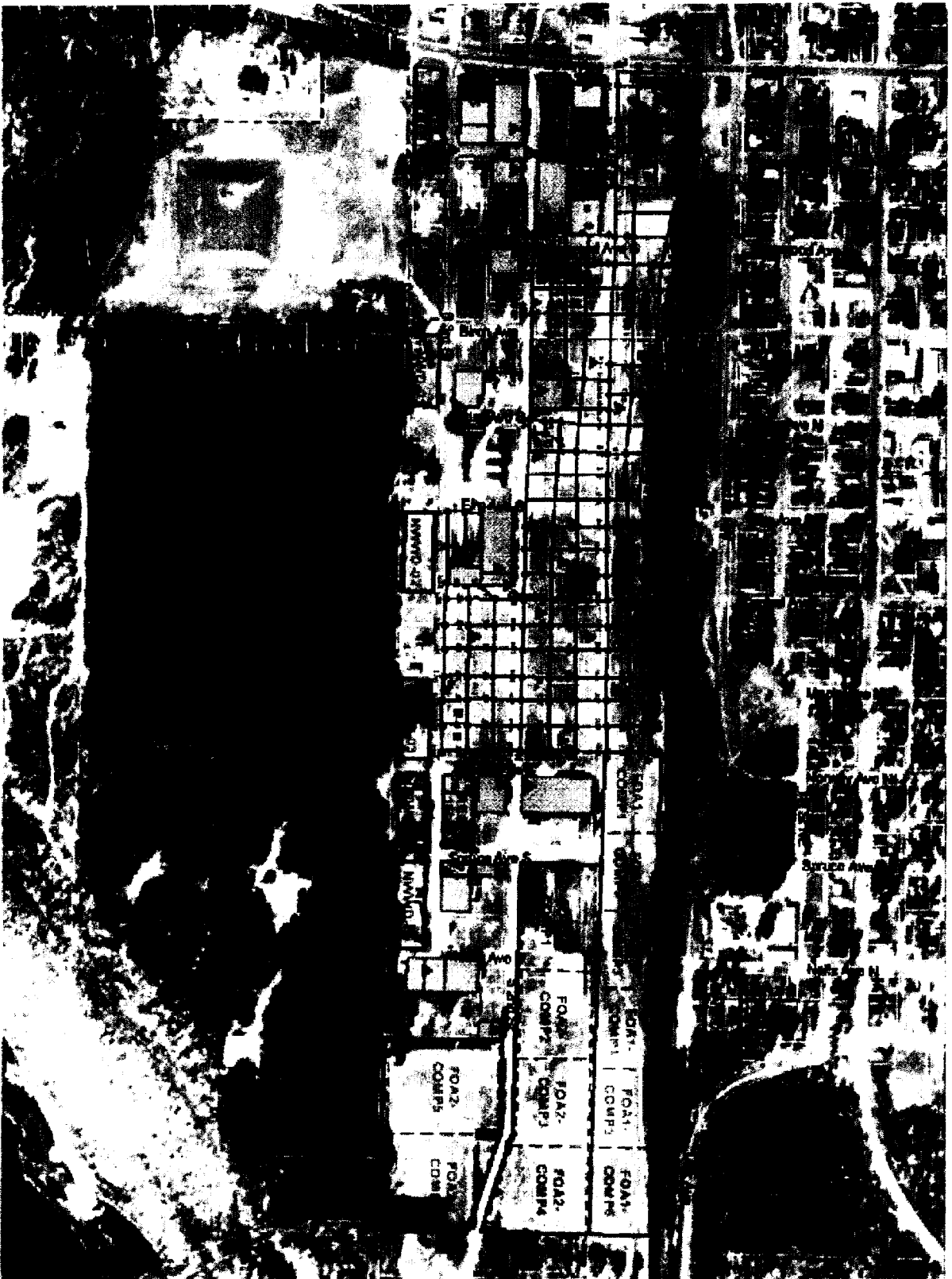


Figure 3
 SAMPLE LOCATIONS
 SUPPLEMENTAL ASSESSMENT
 St. Regis Paper Company Site
 Cass Lake, Minnesota
 June 24, 2003



0 100 200 Feet

LEGEND

- 1. Proposed Well Location
- 2. Existing Well Location
- 3. Existing Watering Area
- 4. Existing Well
- 5. Existing Well
- 6. Existing Well
- 7. Existing Well
- 8. Existing Well
- 9. Existing Well
- 10. Existing Well
- 11. Existing Well
- 12. Existing Well
- 13. Existing Well
- 14. Existing Well
- 15. Existing Well
- 16. Existing Well
- 17. Existing Well
- 18. Existing Well
- 19. Existing Well
- 20. Existing Well
- 21. Existing Well
- 22. Existing Well
- 23. Existing Well
- 24. Existing Well
- 25. Existing Well
- 26. Existing Well
- 27. Existing Well
- 28. Existing Well
- 29. Existing Well
- 30. Existing Well
- 31. Existing Well
- 32. Existing Well
- 33. Existing Well
- 34. Existing Well
- 35. Existing Well
- 36. Existing Well
- 37. Existing Well
- 38. Existing Well
- 39. Existing Well
- 40. Existing Well
- 41. Existing Well
- 42. Existing Well
- 43. Existing Well
- 44. Existing Well
- 45. Existing Well
- 46. Existing Well
- 47. Existing Well
- 48. Existing Well
- 49. Existing Well
- 50. Existing Well
- 51. Existing Well
- 52. Existing Well
- 53. Existing Well
- 54. Existing Well
- 55. Existing Well
- 56. Existing Well
- 57. Existing Well
- 58. Existing Well
- 59. Existing Well
- 60. Existing Well
- 61. Existing Well
- 62. Existing Well
- 63. Existing Well
- 64. Existing Well
- 65. Existing Well
- 66. Existing Well
- 67. Existing Well
- 68. Existing Well
- 69. Existing Well
- 70. Existing Well
- 71. Existing Well
- 72. Existing Well
- 73. Existing Well
- 74. Existing Well
- 75. Existing Well
- 76. Existing Well
- 77. Existing Well
- 78. Existing Well
- 79. Existing Well
- 80. Existing Well
- 81. Existing Well
- 82. Existing Well
- 83. Existing Well
- 84. Existing Well
- 85. Existing Well
- 86. Existing Well
- 87. Existing Well
- 88. Existing Well
- 89. Existing Well
- 90. Existing Well
- 91. Existing Well
- 92. Existing Well
- 93. Existing Well
- 94. Existing Well
- 95. Existing Well
- 96. Existing Well
- 97. Existing Well
- 98. Existing Well
- 99. Existing Well
- 100. Existing Well

WELL LOCATIONS
St. Regis Paper Company Site
Cass Lake, Minnesota
June 24, 2003

Appendix B

FIELD SAMPLING PLAN
for
REMOVAL SITE EVALUATION
and SUPPLEMENTAL ASSESSMENT

St. Regis Paper Company Superfund Site
Cass Lake, Minnesota

Contents

	<u>Page</u>
1. Introduction	1
2. Removal Site Evaluation	2
2.1 Sample Locations	2
2.1.1 North Storage Area	2
2.1.2 Southwest Disposal Pit Area	3
2.2 Sampling Procedures	3
3. Supplemental Assessment	5
3.1 Soil Sample Locations	5
3.1.1 Former Plant Operational Areas	5
3.1.2 Potential Offsite Wind Deposition Areas	5
3.1.3 Nearby Offsite Residential Areas	6
3.2 Soil Sampling Procedures	6
3.2.1 Former Operational Areas	7
3.2.2 Potential Offsite Wind Depositional Areas	7
3.2.3 Nearby Offsite Residential Areas	7
3.3 Groundwater Sampling Procedures	7
4. Decontamination Procedures	9
4.1 Soil Sample Collection	9
4.2 Groundwater Sample Collection	9
5. Sample Handling and Analysis	10
5.1 Sample Containers	10
5.2 Sample Preservation and Preparation	10
5.3 Sample Identification and Documentation	10
5.4 Sample Chain-Of-Custody Procedures	12
5.5 Sample Packaging and Shipping Procedures	12
6. Investigation-Derived Waste	13

7. Project Health and Safety Procedures	14
8. Quality Assurance Requirements	15
9. Sample Location Mapping Requirements	16
10. References	17

List of Tables

Table 1	Sample Locations, Depths and Analytes
Table 2	Grid and Sample Coordinates, Removal Site Evaluation
Table 3	Grid and Sample Coordinates, Supplemental Assessment
Table 4	Sample Containers, Preservation, and Holding Time

List of Figures

Figure 1	Sample Locations – Removal Site Evaluation
Figure 2	Sample Locations – Supplemental Assessment

1. Introduction

On behalf of International Paper Company, Barr Engineering Company (Barr) and Integral Consulting, Inc. (Integral) drafted a field sampling plan (FSP) for the Removal Site Evaluation (RSE) and Supplemental Assessment (SA) for the St. Regis Paper Company (St. Regis) site in Cass Lake, Cass County, Minnesota. USEPA modified that document to create this FSP. This FSP describes the sampling activities to be performed to: (1) assess the need for a possible removal action to address dioxins/furans in surface soils; (2) further evaluate the presence and magnitude of chemicals of potential concern (COPCs) in surface soils; and (3) develop additional information and determine an appropriate course of action for private wells in the vicinity of the Site. The FSP was developed based on available data from previous site investigations and discussions between U.S. Environmental Protection Agency (EPA) and International Paper. Barr and Integral are also preparing a quality assurance project plan (QAPP) and project health and safety plan (PHASP) that will be submitted separately. Additional information on project background, objectives, and rationale is provided in the Work Plan.

The FSP consists of 10 sections, including this introduction (Section 1.0). Section 2.0 describes proposed field sampling activities for the RSE; Section 3.0 describes proposed field sampling activities for the SA; Section 4.0 discusses decontamination procedures; Section 5.0 discusses sample handling and analysis; Section 6.0 provides the tentative schedule for field activities; Section 7.0 discusses the disposal of investigation-derived waste (IDW); Section 8.0 describes health and safety procedures; Section 9.0 discusses quality assurance (QA) requirements; and Section 10.0 discusses project requirements for sample location mapping. References used to prepare the FSP are provided at the end of the plan. Barr's standard operating procedures (SOP) for the field sampling activities have been provided to USEPA.

2. Removal Site Evaluation

The field sampling activities detailed below are based upon discussions and meetings with the U.S. EPA. Field sampling activities will be conducted in accordance with the U.S. EPA-approved, site-specific QAPP and the Barr SOPs. When the FSP differs from the SOPs, site-specific FSP procedures will be followed. Sampling locations and procedures are discussed below.

2.1 Sample Locations

Previous activities (October 2001) consisted of soil sample collection through horizontal compositing across sampling grid cells each measuring about 100 by 100 feet in the former North Storage Area (NSA) and about 20 by 20 feet in the former Southwest Disposal Pit Area. The positions of most grid nodes established during the October 2001 investigation were documented using global positioning system technology and are shown on Figure 1. Straight lines connecting adjacent grid nodes were drawn through areas where the stakes were missing to approximate the missing grid node locations. The grid node coordinates were estimated at the intersections of the grid lines.

2.1.1 North Storage Area

Composite soil samples will be collected from the locations (grid cells) within the NSA identified in the Appendix A and Appendix C of the Order. The sample locations, depths and analytes are summarized in Table 2 of the Workplan and within Appendix C of the Order. At 53 locations, composite soil samples from the 0- to 4-inch and 4- to 12-inch below ground surface (bgs) interval will be collected. Thirty-eight of the composite samples from the 0- to 4-inch bgs interval will be analyzed for dioxins/furans. The remaining composite samples from the 0- to 4-inch bgs interval will be archived for possible future analysis. The 0- to 4-inch bgs interval was selected, in consultation with EPA, as the most appropriate interval for assessing the potential for direct human exposure to dioxins/furans in near-surface soils and assessing the need for a possible removal action. Twenty seven of the composite soil samples from the 4- to 12-inch bgs interval will also be archived for possible future analysis. The archived samples will be analyzed based on the distribution of dioxins/furans in the 0- to 4-inch bgs interval. Archived samples will be analyzed at those locations where dioxin/furan concentrations in the adjacent or overlying 0- to 4-inch bgs interval exceed 1 ppb TEQ_{DF}-WHO₉₈.

At the remaining six locations, vertical soil profiles consisting of composite soil samples from the 0- to 4-inch, 4- to 12-inch, and 12- to 24-inch bgs intervals will be collected. These locations are in the vicinity of

locations where dioxin/furan concentrations exceeded 1 ppb TEQ_{DF}-WHO₉₈ in the 2001 sampling results. The 0- to 4-inch and 4- to 12-inch bgs intervals from all six vertical soil profile locations will be analyzed for dioxins/furans. Two of the six samples from the 12- to 24-inch bgs interval will also be analyzed for dioxins/furans. The remaining four samples from the 12- to 24-inch bgs interval will be archived and analyzed only if the overlying interval samples exceed 1 ppb TEQ_{DF}-WHO₉₈. These profiles will be used to assess the vertical extent of dioxins/furans in these locations.

2.1.2 Southwest Disposal Pit Area

Composite soil samples from 0- to 4-inches and 4- to 12-inches bgs will be collected from 4 areas in the Southwest Disposal Pit Area shown on Figure 1. The 0- to 4-inch bgs composite samples from three of these locations will be analyzed for dioxins/furans. The remaining composite sample from the 0- to 4-inch bgs interval and the three composite samples from the 4- to 12-inch bgs interval will be archived for possible future analysis. The sample locations, depths, and analytes are summarized on Table 1.

Additionally, a vertical soil profile consisting of composite soil samples from the 0- to 4-inch, 4- to 12-inch, and 12- to 24-inch bgs intervals will be collected at one location in the Southwest Disposal Pit Area in the vicinity of the location where dioxin/furan concentrations exceeded 1 ppb TEQ in the 2001 sampling results. The 0- to 4-inch and 4- to 12-inch bgs intervals will be analyzed for dioxins/furans. The 12- to 24-inch bgs interval will be archived for possible future analysis.

2.2 Sampling Procedures

Each composite sample will consist of five discrete samples collected from the four corners and the center of each grid area, with separate composite samples prepared from the 0- to 4-inch and 4- to 12-inch (and 12- to 24-inch when collected) bgs intervals. Sampling will be conducted in accordance with the standard operating procedures for soil sample collection and standard operating procedures for soil sample compositing (Attachment 1 and 2).

Composite soil samples will be collected from the specified intervals using a decontaminated stainless-steel split-spoon sampler by field staff wearing disposable nitrile gloves that will be changed after collection of each discrete sample. Barr field staff will navigate to the coordinates of each grid node as specified in Table 2 using a Global Positioning System (GPS). A stake will be driven into the ground to mark the location. The discrete sample will be collected approximately 2 paces (approximately 6 feet) toward the grid's center. The location of each discrete sub sample will be recorded with the GPS.

Each composite sample will be prepared by placing equal volumes of the five discrete soil samples in a new or decontaminated stainless steel mixing bowl and stirring for 1-minute or until the soil is thoroughly mixed using a new or decontaminated stainless steel spoon. The homogenized sample will be divided into four quadrants. The sample containers will be filled by spooning soil from one quadrant into the container and then spooning soil from the opposite quadrant into the container. This procedure will be repeated until the sample container is full.

Barr will log each sample in accordance with the United Soil Classification System (USCS). Samples will be immediately placed in sample containers and stored on ice in a cooler for transport to the analytical laboratory. Chain-of custody documentation will be filled out in the field and will accompany the samples to the laboratory.

3. Supplemental Assessment

Field sampling activities will be conducted in accordance with the U.S. EPA-approved, site-specific QAPP, which will be a stand-alone document, and the Barr SOPs. When the FSP differs from the SOPs, site-specific FSP procedures will be followed. Sampling locations and procedures are discussed below.

3.1 Soil Sample Locations

3.1.1 Former Plant Operational Areas

Twelve composite surface soil samples (0- to 4-inch interval) will be collected from the locations shown on Figure 2 in former operational areas at the Site and analyzed for dioxins/furans, pentachlorophenol (PCP), and polycyclic aromatic hydrocarbons (PAHs). At each location, a composite from the 4- to 12-inch interval will also be collected and, except as provided in Appendix C to the Order, archived for possible future analysis. Archived samples will be analyzed if the validated analytical data demonstrate that the TEQ_{DF}-WHO₉₈ concentration of the overlying composite sample is greater than or equal to 1 ppb. These samples will be collected as described in Section 3.2.1

3.1.2 Potential Offsite Wind Deposition Areas

EPA obtained prevailing wind direction data from the Band for an automated weather station located in Cass Lake. The data was collected beginning in July 2002 through March 2003. EPA's review of this data indicated southerly prevailing winds from July through September, with winds becoming predominantly westerly to southwesterly from October through March. EPA also reviewed documents that discuss Minnesota wind climatology and prevailing wind direction. In general, prevailing winds in Minnesota are from the northwest in November through approximately May and from the south in June through October (Baker 1983). Based on this information, EPA identified potential deposition areas north and south of the North Storage Area that may have been impacted by wind-blown material containing dioxins/furans originating from the site.

A composite surface soil sample (0- to 4-inch bgs interval) will be collected and analyzed for dioxins/furans from each of the potential offsite wind depositional areas shown on Figure 2. Each composite sample will consist of six subsamples collected from each sampling area (Figure 2). A composite from the 4- to 12-inch interval will also be collected in the same manner and, except as provided in Appendix C to the Order, archived for possible future analysis. Archived samples will be

analyzed if the validated analytical data demonstrate that the TEQ_{DF}-WHO₉₈ concentration of the overlying composite sample is greater than or equal to 1 ppb. These samples will be collected by establishing a uniform grid over each sampling area.

3.1.3 Nearby Offsite Residential Areas

A composite surface soil sample (0- to 4-inch bgs interval) will be collected and analyzed for dioxins/furans from each of the nearby offsite residential properties shown on Figure 2. The composite samples will consist of five discrete samples collected from the four corners and the center of the residential property. The approximate property boundaries (i.e., parcels), which were obtained from Cass County property records, are shown on Figure 2. A composite from the 4- to 8-inch interval will also be collected in the same manner and, except as provided in Appendix C to the Order, archived for possible future analysis according to Appendix C of this Order. Archived samples will be analyzed if the validated analytical data demonstrate that the TEQ_{DF}-WHO₉₈ concentration of the overlying composite sample is greater than or equal to 1 ppb.

3.2 Soil Sampling Procedures

Composite soil samples will be collected from the specified intervals using a decontaminated stainless-steel split-spoon sampler by field staff wearing disposable nitrile gloves that will be changed after collection of each discrete sample. Barr field staff will navigate to the coordinates of each sample location as specified in Table 3 using a GPS. The location of each discrete subsample will be recorded with the GPS. Soil sampling will be conducted in accordance with Barr SOP's (Attachments 1 and 2).

Each composite sample will be prepared by homogenizing equal volumes of the discrete soil samples from the area by stirring for 1 minute in a new or decontaminated stainless-steel mixing bowl using a new or decontaminated stainless-steel trowel or spoon. The homogenized sample will then be divided into four quadrants, and the sample containers will be filled by spooning soil from one quadrant into the container and then spooning soil from the opposite quadrant into the container. This procedure will be repeated until the sample containers are full.

Barr will log each sample in accordance with the United Soil Classification System (USCS). Samples will be immediately placed in sample containers and stored on ice in a cooler for transport to the analytical laboratory. Chain-of-custody documentation will be filled out in the field and will accompany the samples to the laboratory.

3.2.1 Former Operational Areas

The former operational areas will be subdivided into the twelve sampling grids shown on Figure 2, and one composite sample will be collected from each grid. Each composite will consist of five discrete subsamples collected from the four corners and the center of the grid. Separate composite samples will be prepared from the 0- to 4-inch and 4- to 12-inch bgs intervals. Field staff will navigate to the coordinates of each grid node as specified in Table 3 using a Global Positioning System (GPS). A stake will be driven into the ground to mark the location. The discrete sample will be collected approximately 2 paces (approximately 6 feet) toward the grid's center. The location of each discrete subsample will be recorded with the GPS.

3.2.2 Potential Offsite Wind Depositional Areas

A composite sample will be collected from each potential offsite wind depositional area shown on Figure 2. Each area was divided into 6 equal area cells. Soil samples will be collected from the center of each cell. Each sample point has been plotted on Figure 3 and the coordinates (UTM relative to North American Datum (NAD) 83 datum) for each location are summarized on Table 3. The location of each discrete subsample will be recorded with the GPS.

3.2.3 Nearby Offsite Residential Areas

Nearby offsite residential sampling procedures are described in Section 3.1.3.

3.3 Groundwater Sampling Procedures

The groundwater wells to be sampled are identified in Appendices A and C to the Order.

Barr will collect well water samples from a valve closest to the well head and that is not affected by any in-home treatment system (for example, an outside spigot). If no such valve is available, then the sample will be collected from an available spigot, and information on any in-home treatment system will be recorded in the logbook. Samples will not be collected if the residential well system is not operational.

The residential well system will be purged for a minimum of 15 minutes before sampling. Physical parameters such as temperature, pH, and specific conductance will be measured and recorded at the onset of purging and then at 5-minute intervals thereafter as specified in Attachments 7 and 8. Stabilization will be considered reached when each of these parameters are within 10 percent for two successive

measurements. Unfiltered samples will be collected after physical parameters have stabilized. Barr will collect samples directly into the sample containers.

Barr field staff will wear disposable nitrile gloves that will be changed after each sample is collected. Samples will be immediately placed in sample containers and stored on ice in a cooler for transport to the analytical laboratory. Chain-of-custody documentation will be filled out in the field and will accompany the samples to the laboratory. Groundwater samples will be analyzed by a laboratory for PAHs and PCP.

4. Decontamination Procedures

4.1 Soil Sample Collection

Decontamination of nondedicated sampling equipment will be conducted at a central location within each composite sample area. Nondedicated sampling equipment will be decontaminated after each discrete sample is collected. Decontamination will consist of removing all soil by washing/brushing with an Alconox soap and water solution, followed by a tap water rinse, de-ionized water rinse, and methanol rinse. The decontaminated equipment will then be wiped dry with disposable wipes. Decontamination procedures are discussed in detail in Barr's SOP contained in Attachment 3. Liquid decontamination wastes will be managed as discussed in Section 6.0.

4.2 Groundwater Sample Collection

Groundwater samples will be collected directly from available spigots or faucets without the use of dedicated sampling equipment.

5. Sample Handling and Analysis

Barr will collect samples, prepare samples for shipment, complete all necessary paperwork, maintain sample documentation, and decontaminate sampling equipment. Sample containers, sample preservation and preparation, sample identification and documentation, sample chain-of-custody procedures, and sample packaging and shipping procedures are discussed below and described in greater detail in Section 2.3 of the QAPP.

5.1 Sample Containers

Contaminant-free containers to be used for samples will be prepared in accordance with the procedures specified in U.S. EPA's "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers" (U.S. EPA 1992). Barr will verify specifications for the containers by checking the supplier's certified statement and analytical results for each container lot. These activities will be completed and documented on a continuing basis, and the documents will be maintained in the St. Regis site project file. Sample container requirements are summarized in Table 4.

5.2 Sample Preservation and Preparation

All samples requiring preservation will be stored on ice and shipped to the appropriate laboratories by overnight delivery. Sample preservation, preparation, and maximum holding times are summarized in Table 4.

5.3 Sample Identification and Documentation

Each sample will be identified using a 4-component, alphanumeric system that identifies the project, sampling area, sampling location, and sampling depth. The project designation will be "SR" for the St. Regis site. Each sample collected will be identified with up to a four-character alphabetic code corresponding to the sampling area as follows:

- "NSA" for the North Storage Area
- "SW" for the Southwest Disposal Pit Area

- “FOA” for the Former Operational Area
- “NWWD” for the Northwest Wind Depositional Area
- “SWD” for the South Wind Depositional Area
- “RES” for the nearby offsite Residential Areas

Each predetermined sampling location will have an alphanumeric location identifier to further designate the sampling location. For example, samples collected in the North Storage Area and the Southwest Disposal Pit Area will include the grid cell identification number that corresponds to the grids laid out during the October 2001 RAC sampling event. New sampling locations in the potential offsite wind depositional areas north and south of the North Storage Area will be designated by unique identification numbers shown on Figure 3. The alphanumeric location identifier may be followed by a one- or two-character alphabetic identifier that indicates a duplicate sample (D) or an equipment rinsate sample (ER). The sampling depth will follow the alphanumeric location identifier and indicate sampling depth interval in inches bgs.

Examples of each sample designation are listed below:

Sample Designation	Meaning
SR-NSA-J28-29-0-4	St. Regis site, North Storage Area sample from grid cell J28-29, collected from 0 to 4 inches bgs
SR-SW-SW7-4-12	St. Regis site, Southwest Disposal Pit Area sample from grid cell SW7, collected from 4-12 inches bgs
SR-FOA1-COMP1-0-4	St. Regis site, Former Operational Area 01, composite sample 1 collected from 0 to 4 inches bgs,
SR-FOA2-COMP3-ER	St. Regis site, Former Operational Area 02, composite sample 3, equipment rinsate sample collected after completion of the sample
SR-NWWD-02-0-4	St. Regis Site, NorthWest Wind Depositional Area -02 collected from 0 to 4 inches bgs.
SR-RES24-4-8	St. Regis Site, Residential Property 24, collected from 4 to 8 inches bgs.

Sampling activities will be documented in a bound logbook using a pencil. The time of collection, sample number, sampling location, sampling depth interval, field observations, analyses, and sampler's name will be recorded in the logbook for each sample. Each page of the logbook will be dated, numbered, and signed by Barr personnel.

5.4 Sample Chain-Of-Custody Procedures

All samples will be collected and handled using proper chain-of-custody procedures. When collecting samples for laboratory analysis, field personnel will complete the laboratory paperwork used for tracking samples, including the following information:

- Chain-of-custody forms
- Custody seals

Barr will appoint one field technical staff person per sampling team as the sample custodian. Upon completion of all required documents, the sample custodian will sign and date the documents and list the time of sample collection. The custodian will also confirm the completeness of all descriptive information on the chain-of-custody forms, which will be included with each shipping container. Attachment 5 provides Barr's SOP for Documentation on a Chain-of-Custody.

Due to limited pickup and delivery schedules of overnight delivery service in the Cass Lake Area, samples will be secured in water treatment plant building for up to 72 hours after sample collection.

5.5 Sample Packaging and Shipping Procedures

All environmental samples collected for chemical analysis will be shipped to the appropriate laboratories using an overnight delivery service. Sample containers will be placed in plastic bubble wrap bags to reduce the chance of breakage during shipment. The sample containers will then be placed in coolers filled with additional cushioning packing material. Ice that has been double-bagged will then be placed in the coolers to maintain the appropriate temperature during transport.

Laboratory paperwork for the samples will be placed in a sealed plastic bag and taped to the inside of the cooler lid. The cooler lid will then be securely taped closed and chain-of-custody seals placed on the cooler lid and across the latch of the container. All shipping containers will be labeled as required by the U.S. Department of Transportation. Sample packaging and shipping procedures are discussed in detail in Barr SOP (Attachment 6). After packaging, the samples will be shipped by overnight carrier to the designated laboratory(ies).

6. Investigation-Derived Waste

The field sampling activities will generate liquid IDW resulting from decontamination of nondedicated sampling equipment. Liquid IDW from the initial wash (water andalconox) will be containerized and stored at the Water Treatment Plant. Tap water and DI water rinses will be discharged to the ground surface. Methanol rinses will be containerized and stored at Water Treatment Plant.

Barr anticipates collecting one liquid IDW sample upon completion of field sampling. IDW analytical parameters will be determined after surface soil sample analytical results are provided to Barr. After receiving analytical results for the IDW sample, International Paper will direct a waste disposal subcontractor to dispose of the IDW in accordance with local, state, and federal regulations.

Excess soil will be returned to the ground surface in the area from which the soil was collected.

7. Project Health and Safety Procedures

All field activities will be conducted in accordance with the site-specific PHASP, which is being prepared by Barr for the sampling activities proposed for the St. Regis site. Prior to initiation of field activities, all field personnel will read and sign the PHASP to indicate that they understand the plan and agree to operate in accordance with its requirements. Daily health and safety meetings will be conducted prior to the start of sampling activities, and all Barr personnel will attend these meetings. A copy of the PHASP will be kept on-site.

8. Quality Assurance Requirements

All field sampling activities will be conducted in accordance with the project QAPP prepared by Barr and Integral for sampling activities proposed for the St. Regis site. A copy of the QAPP will be kept on-site for immediate use in resolving QA issues that may arise during the field activities.

Equipment rinsate (ER) and field duplicate samples will be collected at a rate of approximately 1 per 10 investigative samples and submitted to a laboratory for dioxin analysis. Quality control samples will be collected as specified in Barr's SOP (Attachment 4).

9. Sample Location Mapping Requirements

Field sample locations will be identified with Global Positioning System (GPS) coordinates. Each composite sample location will be represented by the discrete sample collected at the center of the compositing area. GPS units used on the project will have a horizontal accuracy of 1 meter or less. GPS units will be calibrated once prior to sampling activities and once at the conclusion of sampling activities using a nearby first order benchmark. The configuration of GPS units will conform to the following minimum data quality specifications:

- Position dilution of precision (PDOP) no greater than 5
- Minimum of 12 positions obtained at a 5-second collection rate; the average value for all positions will be used to represent the sample location
- Minimum of 5 space vehicles (SV) for data collection

10. References

- Agency for Toxic Substances and Disease Registry (ATSDR). 1997. "Dioxin and Dioxin-Like Compounds in Soil, Part 1: ATSDR Interim Policy Guideline." U.S. Department of Health and Human Services. August 21
- Baker, Donald G., 1983. "Wind Climatology and Wind Power." Technical Bulletin. Agricultural Experiment Station, University of Minnesota.
- Champion International Corporation (Champion). 1988. "Response Action Final Report, Former City Dump Pit Site." Prepared by Barr Engineering Company. November.
- Minnesota Pollution Control Agency (MPCA). 1995. "Five-Year Review Report, St. Regis Paper Company Site, Cass Lake, Minnesota." March 27.
- Tetra Tech EM Inc. (Tetra Tech). 2002. "Data Evaluation Report, St. Regis Company Site, Cass Lake, Minnesota." August 23.
- U.S. Environmental Protection Agency (U.S. EPA). 1985. "National Enforcement Investigation Center Policies and Procedures." U.S. EPA-330/9-78/001-R. Revised June.
- U.S. EPA. 1992. "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers." April.
- U.S. EPA. 1998. "Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites." OSWER Directive 9200.4-26. April 13.
- U.S. EPA. 1999. "Statement of Work for Non-Time-Critical Removal Support, St. Regis Paper Company Site, MN, Revision 1." June 17.
- U.S. EPA. 2002. "Statement of Work for Analysis of Chlorinated Dibenzo-P-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs)." Analytical Operations/Data Quality Center. Document No. DLM01.4. January.
- U.S. Geological Survey (USGS). 1972. 7.5-Minute Series Topographic Maps of Cass Lake and Pike Bay, Minnesota, Quadrangles.

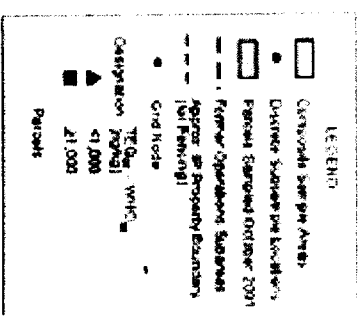


Figure 2
 SAMPLE LOCATIONS
 SUPPLEMENTAL ASSESSMENT
 St. Regis Paper Company Site
 Cass Lake, Minnesota
 June 23, 2000

Appendix C

**FIELD SAMPLING PLAN FOR
ADDITIONAL SAMPLING
ST. REGIS PAPER COMPANY SITE
CASS LAKE, CASS COUNTY, MINNESOTA**

CONTENTS

<u>Section</u>	<u>Page</u>
ABBREVIATIONS AND ACRONYMS	iii
1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION AND HISTORY	2
2.1 SITE LOCATION AND LAYOUT	2
2.2 SITE HISTORY	2
2.2.1 Operations	3
2.2.2 Previous Investigations and Remedial Activities	3
2.2.3 Tetra Tech Sampling History and Results	4
3.0 PROJECT OBJECTIVES	7
4.0 ADDITIONAL FIELD SAMPLING ACTIVITIES.....	8
4.1 ADDITIONAL SAMPLING LOCATIONS	8
4.1.1 Grade School	8
4.1.2 BNSF Railroad Right-of-Way	9
4.1.3 Townhome Development	9
4.1.4 Northwest Storage Area (NSA).....	10
4.1.5 Southwest Disposal Area (SWD).....	10
4.2 SOIL SAMPLING FOR ANALYSIS PREVIOUSLY DESIGNATED TO BE ARCHIVED.....	13
4.3 GROUNDWATER SAMPLING LOCATIONS	14
4.3.1 South Residential Area	15
4.3.2 North Residential Area	15
4.3.3 Fox Creek Area	15
4.4 SOIL SAMPLING PROCEDURES	17
4.3.2 Additional Sample Collection	17
4.5 GROUNDWATER SAMPLING PROCEDURES	18
5.0 DECONTAMINATION PROCEDURES	19

6.0	SAMPLE HANDLING	19
6.1	SAMPLE CONTAINERS	19
6.2	SAMPLE PRESERVATION AND PREPARATION	19
6.3	SAMPLE IDENTIFICATION AND DOCUMENTATION	19
6.3.1	Soil Sample Identification	20
6.3.2	Groundwater Sample Identification	21
6.4	SAMPLE CHAIN-OF-CUSTODY PROCEDURES	22
6.5	SAMPLE PACKAGING AND SHIPPING PROCEDURES	22
7.0	SCHEDULE FOR FIELD ACTIVITIES	23
8.0	DISPOSAL OF INVESTIGATION-DERIVED WASTE	23
9.0	HEALTH AND SAFETY PROCEDURES	23
10.0	QUALITY ASSURANCE REQUIREMENTS	24
11.0	SAMPLE LOCATION MAPPING REQUIREMENTS	24
	REFERENCES	25

FIGURES

<u>Figure</u>	<u>Page</u>
1 SITE LAYOUT MAP	26

TABLES

<u>Table</u>	<u>Page</u>
1 SUMMARY OF OCTOBER 2001 INVESTIGATION SAMPLING AND RESULTS ..	5
2 SOIL SAMPLING AND ANALYSIS SUMMARY	12
3 SOIL SAMPLING LOCATIONS	13
4 GROUNDWATER SAMPLING AND ANALYSIS SUMMARY	16

ABBREVIATIONS AND ACRONYMS

Band	Leech Lake Band of Ojibwe (Chippewa) Tribe
bgs	Below ground surface
BNSF	Burlington Northern Santa Fe
BTAG	Biological Technical Assistance Group
CCA	Copper-chromium-arsenate
Champion	Champion International Corporation
CLP	Contract Laboratory Program
COC	Chemical of concern
D	Duplicate sample
DRM	Leech Lake Reservation Division of Resource Management
DDT	Dichloro-diphenyl-trichloroethane
DDD	Dichloro-diphenyl-dichloroethane
DDE	Dichloro-diphenyl-dichloroethylene
FOA	Former Operational Area
FSP	Field sampling plan
GPS	Global positioning system
HASP	Health and safety plan
IDW	Investigation-derived waste
L	Liter
MDH	Minnesota Department of Health
MPCA	Minnesota Pollution Control Agency
MS	Matrix spike
MSD	Matrix spike duplicate
NA	Not applicable
PAH	Polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCP	Pentachlorophenol
ppb	Part per billion
PRG	Preliminary remediation goal
QA	Quality assurance
QAPP	Quality assurance project plan
QC	Quality control
RA	Response action
RAC	Response Action Contract
RCRA	Resource Conservation and Recovery Act
RP	Responsible Party
SOP	Standard operating procedure
START	Superfund Technical Assistance and Response Team
St. Regis	St. Regis Paper Company
SVOC	Semivolatile organic compound
TAL	Target analyte list

Tetra Tech
USCS
U.S. EPA
USGS

Tetra Tech EM Inc.
Unified Soil Classification System
U.S. Environmental Protection Agency
U.S. Geological Survey

1.0 INTRODUCTION

The purpose of this FSP is to describe additional sampling activities that International Paper, the Respondent, will complete to support U.S. EPA site characterization activities. In addition, the resulting information will be used to evaluate the potential risk to human health and the environment in and around the former St. Regis Paper Company site. The FSP was developed based on available data from previous site investigations, discussions between U.S. EPA and their contractor, and discussions between U.S. EPA and The Respondent.

The FSP consists of 11 sections, including this introduction (Section 1.0). Section 2.0 describes the St. Regis site and summarizes its history; Section 3.0 describes project objectives; Section 4.0 describes proposed field sampling activities; Section 5.0 discusses decontamination procedures; Section 6.0 discusses sample handling; Section 7.0 provides the tentative schedule for field activities; Section 8.0 discusses the disposal of investigation-derived waste (IDW); Section 9.0 describes health and safety procedures; Section 10.0 discusses quality assurance (QA) requirements; and Section 11.0 discusses project requirements for mapping sample locations. References used to prepare the FSP are listed at the end of the plan.

2.0 SITE DESCRIPTION AND HISTORY

This section discusses the St. Regis site location and layout and the site history. Unless otherwise noted, the information below was obtained from the Data Evaluation Report for the St. Regis site (Tetra Tech 2002).

2.1 SITE LOCATION AND LAYOUT

The St. Regis site is located in Cass Lake, Minnesota, on the Leech Lake Indian Reservation next to the Chippewa National Forest. The general boundaries of the area to be investigated under this FSP are Minnesota Highway 371 to the west, 3rd Street Northwest to the north, Pike Bay to the east, and Fox Creek to the south. Appendix D to the Order shows the site location.

For purposes of the previous site investigation, the St. Regis site was divided into the following four areas: the North Storage and South Residential Area (NSA); the City Dump and Fox Creek Area; the Southwest Area and Fish Hatchery (SWA); and the Channel Area. In addition, the Pike Bay area, deep holes in Cass Lake and Pike Bay, and reference (background) locations were evaluated.

For the purposes of this FSP, the sampling areas will mirror the areas described by the Respondent in the FSP attached as Appendix D to the Order. The Respondent grouped activities described in its FSP into two categories; (1) the removal site evaluation, and (2) the supplemental assessment. The removal site evaluation includes additional sampling to be conducted in the Former North Storage Area and Southwest Area. The supplemental assessment includes additional sampling or evaluation by the Respondent of the following areas (1) the Former Operational Areas (FOA1 and FOA2), (2) the Nearby Off-Site South Residential Area, (3) Potential Wind Deposition Areas, and (4) Private Water Wells (Figure 1).

2.2 SITE HISTORY

The history of operations and previous investigations and remedial activities at the St. Regis site are briefly discussed below, followed by a discussion of previous sampling activities conducted by Tetra Tech and corresponding results.

2.2.1 Operations

Beginning in 1957, the St. Regis Corporation operated a wood preserving facility at the site. The site was eventually expanded through the purchase of additional land to the south. The wood treating process consisted primarily of pressure treating wood using creosote and pentachlorophenol (PCP). Both chemicals were used for wood preservation until the site closed in 1985. PCP was combined with a carrier solvent, usually No. 2 fuel oil. During later years, a water-dispersible, proprietary mixture of PCP and ketone was used for wood preservation. During nonfreezing months from about 1969 until 1973, a water-soluble, copper-chromium-arsenate (CCA) salt solution was also used for wood treating. In 1984, the site was placed on the National Priorities List based on a Hazard Ranking System score of 53. In January 1985, Champion International Corporation (Champion) assumed ownership of the site when it acquired and merged with the St. Regis Corporation. Operations at the St. Regis site ceased in September 1985. In June 2000, International Paper purchased the outstanding stock of Champion.

2.2.2 Previous Investigations and Remedial Activities

In 1985 and 1986, Champion performed response actions (RA) at the site to fulfill Response Orders on Consent for the St. Regis site dated February 26, 1985 (U.S. EPA 1999b). The final RA report provides a detailed description of RA activities (Champion 1988).

In April 1995, the Minnesota Pollution Control Agency (MPCA), on behalf of U.S. EPA, completed a 5-year review of the RAs implemented at the St. Regis site (MPCA 1995). The 5-year review revealed that further action was needed to evaluate the protectiveness of the

remedy. Based on the 5-year review, U.S. EPA, MPCA, and the Leech Lake Reservation Division of Resource Management (DRM) identified several areas that required further investigation. In September, 2000, EPA performed a second five-year review. Among the concerns of this five-year review was that the remedial activities removed visibly contaminated soils and sludges, without performing confirmatory sampling of the soils. The 2000 five-year review recommended additional Site sampling and a risk assessment.

2.2.3 Tetra Tech Sampling History and Results

In October 2001, Tetra Tech, under the U.S. EPA Response Action Contract (RAC), conducted a field investigation at the St. Regis site to further evaluate issues raised by MPCA, U.S. EPA, DRM, and the Leech Lake Band of Ojibwe (Chippewa) Tribe (Band) as a result of the 5-year review. The investigation involved sampling of surface soil, surface water, sediment, groundwater, and fish tissue from different areas of the site. Table 1 briefly summarizes the October 2001 investigation, which included surface soil samples from the former North Storage and South Residential Area, Former Operational Areas (FOA1 and FOA2), and the former City Dump Area. The Former Operational Areas included ponds A, B, and C and a former spray irrigation area and landfill. Table 1 also provides background information on the investigation areas, and summarizes information on the sampling purpose, sample media and sampling locations, and analytical results. More details on the sampling activities and analytical results are presented in the Data Evaluation Report (Tetra Tech 2002).

TABLE 1

SUMMARY OF OCTOBER 2001 INVESTIGATION SAMPLING AND RESULTS

Investigation Area	Background Information	Sampling Purpose	Sample Media and Locations	Analytical Results
North Storage and South Residential Area	From 1957 to 1985, the area was used for product storage. Wood products were treated with creosote and PCP.	The sampling purpose was to assess whether products stored in the area caused residual contamination.	Surface soil samples from North Storage Area.	Dioxins: 20 of 20 samples > Region 9 PRGs Dioxins: 5 of 20 samples > U.S. EPA action level Metals: 0 of 20 samples > Region 9 PRGs SVOCs: 14 of 20 samples > Region 9 PRGs
	Residences are located within the area.	No available information indicated that soil at nearby residences had been assessed for potential residual contamination from site-related activities. The sampling purpose was to identify whether the residential area had been impacted by (1) air deposition of site-related contaminants or (2) contaminated surface runoff.	Surface soil samples from residential areas.	Dioxins: 20 of 20 samples > Region 9 PRGs Dioxins: 0 of 20 samples > U.S. EPA action level Metals: 0 of 20 samples > Region 9 PRGs SVOCs: 18 of 20 samples > Region 9 PRGs
Former Operational Areas	Former ponds A, B, and C and the former spray irrigation area and landfill were excavated and backfilled with material from other on-site and off-site sources as part of the 1985-86 response actions.	Confirmation samples were not collected after excavation of the ponds or spray irrigation area and landfill. The sampling purpose was to determine the presence of contaminants related to the backfill material.	Surface soil samples from each pond area and from the spray irrigation area and landfill.	Metals: 0 of 6 samples > Region 9 PRGs SVOCs: 2 of 6 samples > Region 9 PRGs
The City Dump Area	Past assessment had identified a potential groundwater plume at the former City Dump.	The sampling purpose was to assess the potential for surface water runoff to impact to Fox Creek.	One surface soil from the City Dump Area.	Metals: 0 of 1 sample > Region 9 PRGs SVOCs: 0 of 1 sample > Region 9 PRGs

Notes:

PCP = Pentachlorophenol
 PRG = Preliminary remediation goal
 RCRA = Resource Conservation and Recovery Act
 SVOC = Semivolatile organic compound
 U.S. EPA = U.S. Environmental Protection Agency
 > = Greater than

All soil samples collected during the October 2001 investigation consisted of five-point composite samples. Each sample was collected from approximately 0 to 6 inches below ground surface (bgs). Composite samples were prepared by homogenizing five discrete samples collected from each sampling location.

The soil samples collected from the product storage and residential subareas were screened in the field for polynuclear aromatic hydrocarbons (PAH) and PCP using immunoassay test kits, and for arsenic, copper, and chromium using x-ray fluorescence. Select soil samples were submitted for independent laboratory analysis for dioxins and furans, target analyte list (TAL) metals, and semivolatile organic compounds (SVOC).

The soil samples from the City Dump Area as well as the Former Operational Areas (former ponds and former spray irrigation area and landfill) were submitted to an independent laboratory for TAL metals and SVOC analyses.

The results for surface soil samples collected by Tetra Tech in 2001 were compared to various regulatory guidelines to assess the potential risk to human health and the environment. The guidelines used to assess potential impacts to human health were the U.S. EPA Region 9 Preliminary Remediation Goals (PRG). Dioxin and furan results were also compared to the U.S. EPA dioxin policy action level of 1 part per billion (ppb) for dioxin in soil under residential land-use scenarios (U.S. EPA 1998).

Residential well water was not sampled during the 2001 field sampling event because residents indicated that their wells either were not accessible, had not been used for years, or had been sealed with concrete.

3.0 PROJECT OBJECTIVES

The objective of this project is to collect additional data on contaminant concentrations in soil and groundwater. To the extent that any conflicts exist between this sampling plan and the FSP and Workplan for the Removal Site Assessment and Supplemental Sampling, the terms of this sampling plan shall control. The additional data will support an ongoing effort by U.S. EPA to assess the need for future removal actions to protect human health and the environment. In addition, the data will be used to support a human health risk assessment of the St. Regis site. Soil samples will be analyzed for some or all of the following: dioxins and furans; pentachlorophenol (PCP), and polyaromatic hydrocarbons (PAH's). Groundwater samples will be analyzed for PAH's and PCP's. These chemicals have been detected in previous soil and groundwater samples collected from the St. Regis site or may be present based on the operational history of the site.

The Respondent will collect additional soil samples to evaluate near surface soil in five areas to further define the extent of dioxin/PCP contamination near known hot spots or in nearby areas of children's activity. These areas include: (1) the grade school located at Elm Street and 3rd Street Northwest, (2) the vacant portion of the Burlington Northern Santa Fe (BNSF) railroad right-of-way located between the BNSF railroad tracks at the north boundary of the site and the first row of residential properties on Railroad Street NW, (3) the Cass Lake Square townhome development located south of the site adjacent to the south bank of Fox Creek and (4) the Northwest Storage Area (NSA), and (5) the Southwest Area (SWA). These additional samples will be composite soil samples to be collected at 0 to 4 inches below ground surface (bgs). Areas 1, 2, and 3 will be analyzed for dioxins, furans and PCP. Areas 4 and 5 will be analyzed for dioxins, furans, PCP, and PAH's.

Groundwater samples will also be collected. In February and March 2003, the Minnesota Department of Health (MDH) conducted interviews with residents near the St. Regis site. Based on these interviews, the MDH identified several private wells that may be impacted by chemicals from operations at the St. Regis site. The Respondent will collect groundwater samples from

private wells in the North Storage Area, South Residential Area, North Residential Area, and an area south of Fox Creek near the City Dump Area.

4.0 ADDITIONAL FIELD SAMPLING ACTIVITIES

This section describes the additional field sampling activities that the Respondent will complete under this FSP. Section 4.1 describes the additional soil sampling locations that the Respondent will collect. Section 4.2 lists the soil samples that will be submitted for analysis, and thus will not be archived for possible future analysis. Section 4.3 describes the private well sampling locations and number of groundwater samples the Respondent will collect from those wells. Sampling locations are shown on Figure 1. Section 4.4 describes the sampling procedures that the Respondent will use to collect the soil and groundwater samples, respectively.

Field sampling activities will be conducted in accordance with this FSP, the site-specific QAPP, and the SOPs provided to USEPA by the Respondent.

4.1 ADDITIONAL SOIL SAMPLING LOCATIONS

Fourteen additional dioxin/furan and PCP samples will be collected near areas of known hotspots or in nearby areas of children's activities in the vicinity of the St. Regis Site (figure 1). These areas include (1) the grade school located at Elm Street and 3rd Street Northwest, (2) the vacant portion of the BNSF railroad right-of-way located between the BNSF railroad tracks at the north boundary of the site and the first row of residential properties on Railroad Street NW, and (3) a townhome development located south of the site adjacent to the south bank of Fox Creek, (4) the NSA, and (5) the SWA. To evaluate the potential for human exposure to chemicals of concern (COC) that may have been transported to these areas from the site, The Respondent will collect five-point composite samples at the 0-to-4-inch depth interval and submit the samples for dioxins and furans, PAH's, and PCP analyses. The sampling methodology for each area is summarized below.

4.1.1 Grade School

The Respondent will collect one five-point composite soil sample from the grade school property (Figure 1). The composite sample will consist of five discrete grab samples from the 0-to-4-inch depth interval. Four grab samples will be collected near the four corners of the property, and the fifth sample will be collected as near the center of the property as possible. The discrete grab samples and the final composite sample will be collected and prepared in accordance with the soil sampling methodology described in Section 4.4.

4.1.2 BNSF Railroad Right-of-Way

The Respondent will collect six five-point composite samples in grid sections approximately 100 feet wide trending east-west, and 60 feet wide trending north-south at the locations illustrated on Figure 1. The grids are located in the vacant portion of the BNSF railroad right-of-way. The composite samples will consist of five discrete grab samples from the 0-to-4-inch depth interval. Four grab samples will be collected near the four corners of each grid, and the fifth sample will be collected at the center of the grid. The discrete grab samples and the final composite sample will be collected and prepared in accordance with the soil sampling methodology described in Section 4.4.

4.1.3 Townhome Development

The Respondent will collect one five-point composite sample at an undisturbed area of the townhome development located south of Fox Creek (Figure 1). The precise layout of the development is not known; therefore, the composite sampling area will be determined and documented in the field under the supervision of USEPA. The composite sample will consist of five discrete grab samples from the 0-to-4-inch depth interval. Four grab samples will be collected near the four corners of a selected property, and the fifth sample will be collected as near the center of the property as possible. The discrete grab samples and the final composite sample will be collected and prepared in accordance with the soil sampling methodology described in Section 4.4.

Table 2 lists the number of investigative and QC soil samples that will be collected in each area and the analytical parameters for these samples.

4.1.4 Northwest Storage Area (NSA)

The Respondent will collect five additional five-point composite samples within the NSA, located in the central portion of the St. Regis Site (Figure 1). The locations for these samples have the following station ID's, pursuant to figure 1 of Appendix B to the Order:

EF 29,30

AC 27,28

DE 25,26

FH22,23

JL 18,21

The composite samples will consist of five discrete grab samples from the 0-to-4-inch depth interval. Four grab samples will be collected near the four corners of the station, and the fifth sample will be collected as near the center of the station as possible. The discrete grab samples and the final composite sample will be collected and prepared in accordance with the soil sampling methodology described in Section 4.4.

Table 2 lists the number of investigative and QC soil samples that will be collected in each area and the analytical parameters for these samples.

4.1.5 Southwest Disposal Area (SWA)

The Respondent will collect one additional five-point composite sample at the SWA (Figure 1). The composite sample will consist of five discrete grab samples from the 0-to-4-inch depth interval. Four grab samples will be collected near the four corners of the station, and the fifth

sample will be collected as near the center of the station as possible. The discrete grab samples and the final composite sample will be collected and prepared in accordance with the soil sampling methodology described in Section 4.4.

Table 2 lists the number of investigative and QC soil samples that will be collected in each area and the analytical parameters for these samples.

TABLE 2

ADDITIONAL SOIL SAMPLING AND ANALYSIS SUMMARY

Sampling Area	Investigative ^a	Number of QA/QC Samples ^b		Laboratory Parameter ^d	Total ^c
		Field Duplicate ^b	MS/MSD ^c		
Additional NSA	5	1	NA	Dioxins and furans	6
Sample Locations	5	1	1	PAH's	7
	5	1	1	PCP	7
Additional SWD	1	0	NA	Dioxins and furans	1
Sample Locations	1	0	0	PAH's	1
	1	0	0	PCP	1
Grade School	1	0	NA	Dioxins and furans	1
	1	0	0	PCP	1
BNSF ROW	6	1	NA	Dioxins and furans	7
	6	1	1	PCP	9
Townhome	1	0	NA	Dioxins and furans	1
	1	0	0	PCP	1

Notes:

MS = Matrix spike

MSD = Matrix spike duplicate

NA = Not applicable

QA = Quality assurance

QC = Quality control

^a Investigative samples are collected to characterize the site.

^b QA/QC samples are collected to assess the quality of the sampling and analysis procedures. Field duplicates will be collected at an approximate frequency of 1 per every 10 investigative samples. MS/MSD samples will be collected at an approximate frequency of 1 per 20 investigative samples.

TABLE 2 (Continued)

SOIL SAMPLING AND ANALYSIS SUMMARY

- ^c MS/MSD samples are not required by the Contract Laboratory Program (CLP) method for dioxins and furans, but are required for other organic parameters.
- ^d Samples will be analyzed for all dioxin and furan congeners according to the Respondent's QAPP.
- ^e The total number of samples equals the investigative samples plus the QA/QC samples. MS/MSD samples do not require additional sample volume or containers, but require two additional analyses and are considered to be equivalent to two additional samples.

4.2 SOIL SAMPLING FOR ANALYSIS

Fifteen of the 4-12" sampling locations, listed in Table 2 of Appendix A to the Order, shall be analyzed for dioxin/furans, PAH's, and PCP. These locations, listed in Table 3, are also in Figure 1. In addition, three 0-4" samples shall also be analyzed. These samples are also listed in Appendix A to the Order and Table 3.

TABLE 3

ANALYSIS LOCATIONS

Area	Station ID	Sample Interval (bgs)	Dioxin and Furans	PCP	PAH's
North Storage Area	AB12-14	4 to 12 inches	X	X	X
North Storage Area	CD23-24	0 to 4 inches	X	X	X
North Storage Area	AB20-22	4 to 12 inches	X	X	X
North Storage Area	AC5-6	4 to 12 inches	X	X	X
North Storage Area	DE27-29	0 to 4 inches	X	X	X

North Storage Area	CD3-4	4 to 12 inches	X	X	X
North Storage Area	DF8-9	4 to 12 inches	X	X	X
North Storage Area	EF18-19	4 to 12 inches	X	X	X
North Storage Area	EF24-25	4 to 12 inches	X	X	X
North Storage Area	FH27-29	4 to 12 inches	X	X	X
North Storage Area	HI25-26	0 to 4 inches	X	X	X
North Storage Area	JL27-29	4 to 12 inches	X	X	X
FOA1	COMP2	4 to 12 inches	X	X	X
FOA1	COMP5	4 to 12 inches	X	X	X
FOA2	COMP2	4 to 12 inches	X	X	X
FOA2	COMP6	4 to 12 inches	X	X	X
South Wind Deposition Area	NWWD-02	4 to 12 inches	X	X	X
Residential Area	RES-24	4 to 12 inches	X	X	X

Notes:

bgs = below ground surface

4.3 GROUNDWATER SAMPLING LOCATIONS

On March 20 and 21, 2003, the MDH conducted a private water well survey north and south of the BNSF railroad tracks adjacent to the site. South of the tracks the survey was conducted door-to-door, and north of the tracks the survey was selective, based on billing and private well information provided by the City of Cass Lake (MDH 2003). The private water well sampling locations described below were selected by the MDH through consultation with U.S. EPA.

Sampling locations in each area are discussed below. Table 3 lists the number of investigative and QC samples that will be collected in each area and the analytical parameters for these samples.

4.3.1 South Residential Area

The MDH contacted residents at 32 properties located in the South Residential Area; 5 additional residents provided information to the MDH during a public meeting held in February 2003 or by phone. Based on the results of its survey, the MDH identified five residences that potentially have private wells still in use or not yet sealed (MDH 2003). The five sampling locations proposed by the MDH are illustrated on Figure 1. The Respondent shall either seal these wells or collect water samples, if physically possible. Samples collected at each private well location will be analyzed for PCP's and PAH's.

4.3.2 North Residential Area

Based on information provided by the City, including water billing records, the MDH contacted residents at 17 properties in the North Residential Area. Of the residents contacted, 16 confirmed they used private wells for their water supply (MDH 2003). The MDH selected 8 of the 16 wells to be sampled, the locations of which are illustrated on Figure 1. The Respondent shall either seal these wells or collect water samples, if physically possible. Samples collected at each private well location will be analyzed for PAH's and PCP.

4.3.3 Fox Creek Area

The MDH identified many homes south of Fox Creek with private water supply wells. Wells in this area have the potential to be impacted by the St. Regis site operations due to possible improper disposal of waste at the City Dump and in the vicinity of Fox Creek (MDH 2003). To evaluate the potential for groundwater impacts in this area, a groundwater sample will be collected from a residential well at the mink farm in the Fox Creek Area, the location of which is illustrated on Figure 1. The Respondent shall either seal these wells or collect water samples, if physically possible. The sample collected at the mink farm will be analyzed for PAH's and PCP.

TABLE 4
GROUNDWATER SAMPLING AND ANALYSIS SUMMARY

Sampling Area	Investigative ^a	Number of QA/QC Samples ^b		Laboratory Parameter ^d	Total
		Field Duplicate ^c	MS/MSD ^c		
North Residential Area	8	1	1	PAH's	10
	8	1	1	PCP	10
South Residential Area	5	1	0	PAH's	6
	5	1	0	PCP	6
Fox Creek Area	1	0	0	PAH's	1
	1	0	0	PCP	1

Notes:

MS = Matrix spike
MSD = Matrix spike duplicate
NA = Not applicable
QA = Quality assurance
QC = Quality control

^a Investigative samples are collected to characterize the site.

^b QA/QC samples are collected to assess the quality of the sampling and analysis procedures. Field duplicates will be collected at an approximate frequency of 1 per every 10 investigative samples. MS/MSD samples will be collected at an approximate frequency of 1 per 20 investigative samples.

^d Samples will be analyzed for all PAH's and PCP on the CLP Method OLC03.2 analyte list.

^c The total number of samples equals the investigative samples plus the QA/QC samples. MS/MSD require two additional analyses and are considered to be equivalent to two additional samples.

4.4

SOIL SAMPLING PROCEDURES

The section summarizes the soil sampling methodology to be used by the Respondent.

4.4.2 Additional Sample Collection

The Respondent will collect the additional soil samples in accordance with Appendices A and B of the Order. Discrete soil samples will be collected from the 0-to-4-inch depth interval using dedicated new stainless-steel trowels or spoons. The Respondent field staff will wear disposable nitrile gloves and will change gloves after each sample is collected.

Composite samples will be prepared by placing equal volumes of the five discrete soil samples in a stainless-steel mixing bowl and stirring for 1 minute with a stainless-steel trowel or spoon. The homogenized sample will then be divided into four quadrants, and the sample containers will be filled by spooning soil from one quadrant into the container and then spooning soil from the opposite quadrant into the container. This procedure will be repeated until the sample containers are full.

The Respondent will log each sample in accordance with the United Soil Classification System (USCS). Samples will be immediately placed in sample containers and stored on ice in a cooler for transport to the analytical laboratory. Chain-of-custody documentation will be filled out in the field and will accompany the samples to the laboratory. Samples will be analyzed for dioxins and furans and PCP in accordance with the Appendix A of the Order and the Respondent's QAPP.

4.5 GROUNDWATER SAMPLING PROCEDURES

Groundwater sampling will be completed in accordance with the U.S. EPA Region 4 Environmental Investigations and Standard Operating Procedures and Quality Assurance Manual, Section 8, Sampling of Potable Water Supply Wells, dated November 2001 (U.S. EPA 2001a).

The Respondent will collect well water samples from a valve closest to the well head and that is not affected by any in-home treatment system (for example, an outside spigot). If no such valve is available, then the sample will be collected from an available spigot, and information on any in-home treatment system will be recorded in the logbook.

The residential well system will be purged for a minimum of 15 minutes before sampling. Physical parameters such as temperature, pH, and specific conductance will be measured and recorded at the onset of purging and then at 5-minute intervals thereafter. Stabilization will be considered reached when each of these parameters is within 10 percent for two successive measurements. Samples will be collected after physical parameters have stabilized. The Respondent will collect samples directly into the sample containers.

The Respondent's field staff will wear disposable nitrile gloves and will change gloves after each sample is collected. Samples will be immediately placed in sample containers and stored on ice in a cooler for transport to the analytical laboratory. Chain-of-custody documentation will be filled out in the field and will accompany the samples to the laboratory. Groundwater samples will be analyzed for dioxins and furans and PAH's, in accordance with the Appendix A of the Order and the Respondent's QAPP.

5.0 DECONTAMINATION PROCEDURES

The Respondent will use a new stainless-steel trowel or spoon to collect soil samples at each location. Groundwater samples will be collected directly from available spigots or faucets without the use of dedicated sampling equipment. As a result, decontamination of sampling equipment is not required for this investigation.

6.0 SAMPLE HANDLING

The Respondent will collect samples, prepare samples for shipment, complete all necessary paperwork, and maintain sample documentation. Sample containers, preservation and preparation, identification and documentation, chain-of-custody procedures, and packaging and shipping procedures are discussed below and described in greater detail in the Respondent's QAPP.

6.1 SAMPLE CONTAINERS

Contaminant-free containers to be used for samples will be prepared in accordance with the procedures specified in the Respondent's QAPP.

6.2 SAMPLE PRESERVATION AND PREPARATION

All samples requiring preservation will be stored on ice and shipped to the appropriate laboratories by overnight delivery. Sample preservation, preparation, and maximum holding times are summarized in the Respondent's QAPP.

6.3 SAMPLE IDENTIFICATION AND DOCUMENTATION

The following sections describe the sample identification and documentation procedures for soil and groundwater samples.

6.3.1 Soil Sample Identification

Additional Samples: The Respondent supplemental soil samples will be identified using a three-component alphanumeric system that identifies the project, sample area, and unique numeric sample identifier. The project designation is “CL” for Cass Lake. A unique sampling area identifier will follow the project and consist of one of the following designations:

- “GS” for the Grade School
- “BNSF” for the BNSF right-of-way sampling area
- “TH” for the Townhome sampling area

A unique sample number will follow the sampling area designation to identify the specific sample. The entire sampling ID may be followed by a one- or two-character alphabetic identifier that indicates a duplicate sample (D). Matrix spike and matrix spike duplicate (MS/MSD) samples will be identified in the field logbook and clearly designated on the chain-of-custody forms rather than by the sample identification numbers.

Examples of sample designations are listed below.

- | | |
|---------------|--|
| • CL-GS-01 | Cass Lake site, grade school, sample 1 |
| • CL-BNSF-02D | Cass Lake site, BNSF right-of-way, sample 2, duplicate |
| • CL-TH-01 | Cass Lake site, townhome development, sample 1 |

Sampling activities will be documented in a bound logbook using a waterproof pen in accordance with International Paper’s Field Sampling Plan for Removal Site Evaluation and Supplemental Assessment. The time of collection, sample number, sampling location, sampling depth interval, field observations, analyses, and sampler’s name will be recorded in the logbook for each

10.0 QUALITY ASSURANCE REQUIREMENTS

All field sampling activities will be conducted in accordance with the project QAPP prepared by the Respondent for sampling activities proposed for the St. Regis site. A copy of the QAPP will be kept on site for immediate use in resolving QA issues that may arise during the field activities.

The Respondent will collect two types of QA/QC samples during the investigation. The Respondent will collect field duplicate samples at an approximate frequency of 1 for every 10 investigative samples. The Respondent will also designate approximately 1 of every 20 investigative samples as an MS/MSD sample.

11.0 SAMPLE LOCATION MAPPING REQUIREMENTS

Field sampling locations will be identified with Global Positioning System (GPS) coordinates. Each composite sampling location will be represented by the discrete sample collected at the center of the compositing area. GPS units used on the project will have a horizontal accuracy of 1 meter or less. GPS units will be calibrated once prior to sampling activities and once at the conclusion of sampling activities using a nearby first-order benchmark. The configuration of GPS units will conform to the following minimum data quality specifications:

- Position dilution of precision no greater than 8
- Minimum of 12 positions obtained at a 5-second collection rate; the average value for all positions will be used to represent the sampling location
- Minimum of four satellites for data collection

sample. Each page of the logbook will be dated, numbered, and signed by The Respondent personnel. Field data records will be maintained in accordance with National Enforcement Investigation Center Policies and Procedures (U.S. EPA 1985).

6.3.2 Groundwater Sample Identification

Each groundwater sample will be identified using a four-component, alphanumeric system that identifies the project, sample type, sampling area, and sampling location. The project designation will be “CL” for Cass Lake. Each sample will also be identified with the letters “GW” to indicated that the samples are groundwater samples. Each sample collected will be identified with a two-character alphabetic code corresponding to the sampling area as follows:

- “NR” for the North Residential Area
- “SR” for the South Residential Area
- “FC” for the Fox Creek Area

The specific sampling location will follow the sampling area and will consist of either the physical address of the property or a similar unique name to specify the location. The entire sampling ID may be followed by a one- or two-character alphabetic identifier that indicates a duplicate sample (D). MS/MSD samples will be identified in the field logbook and clearly designated on the chain-of-custody forms rather than by the sample identification numbers.

Examples of groundwater sample designations are listed below.

- | | |
|--------------------------|--|
| • CL-GW-NR-212FirstNW-D | Cass Lake site, North Residential Area, sampling location at 212 First Street NW, duplicate sample |
| • CL-GW-SR-211BasswoodSW | Cass Lake site, South Residential Area, sampling location at 211 Basswood SW |
| • CL-GW-FC-minkfarm | Cass Lake site, Fox Creek Area, sampling location at the mink farm |

6.4 SAMPLE CHAIN-OF-CUSTODY PROCEDURES

All samples will be collected and handled using proper chain-of-custody procedures. When collecting samples for laboratory analysis, field personnel will complete the standard paperwork used for tracking samples, including the following information:

- Organic traffic reports
- Chain-of-custody forms
- Sample tags
- Custody seals

The Respondent will appoint one field technical staff person per sampling team as the sample custodian. Upon completion of all required documents, the sample custodian will sign and date the documents and list the time of sample collection. The custodian will also confirm the completeness of all descriptive information on the chain-of-custody forms, which will be included with each shipping container.

Due to limited pickup and delivery schedules of overnight delivery service in the Cass Lake area, samples may be secured in a locked building for up to 48 hours after sample collection.

6.5 SAMPLE PACKAGING AND SHIPPING PROCEDURES

All environmental samples collected for chemical analysis will be shipped to the appropriate laboratories using an overnight delivery service. Sample containers will be placed in plastic bubble wrap bags to reduce the chance of breakage during shipment. The sample containers will then be placed in coolers filled with additional cushioning packing material. Ice that has been double-bagged will then be placed in the coolers to maintain the temperature of 4 °C during transport.

Laboratory paperwork for the samples will be placed in a sealed plastic bag and taped to the inside of the cooler lid. The cooler lid will then be securely taped closed, and chain-of-custody seals will be placed on the cooler lid and across the latch of the container. All shipping containers will be labeled as required by the U.S. Department of Transportation. Sample packaging and shipping procedures are discussed in detail in the Respondent's QAPP.

After packaging, the samples will be shipped by overnight carrier to the designated laboratories.

7.0 SCHEDULE FOR FIELD ACTIVITIES

These field investigation activities shall be completed along the same schedule as the Supplemental Assessment samples, as provided in the Schedule of Appendix A of the Order.

8.0 DISPOSAL OF INVESTIGATION-DERIVED WASTE

However, if IDW is generated, The Respondent will collect the waste in an appropriate container, sample and analyze the waste, and dispose of the waste in accordance with local, state, and federal regulations.

9.0 HEALTH AND SAFETY PROCEDURES

All field activities will be conducted in accordance with the site-specific HASP. Prior to initiation of field activities, all field personnel will read and sign the HASP to indicate that they understand the plan and agree to operate in accordance with its requirements. Daily health and safety meetings will be conducted prior to the start of sampling activities, and all The Respondent personnel will attend these meetings. A copy of the HASP will be kept on site.

REFERENCES




- Champion International Corporation (Champion). 1988. "Response Action Final Report, Former City Dump Pit Site." Prepared by Barr Engineering Company. November.
- Integral Consulting, Inc. (Integral) and Barr Engineering Company. 2003. "Field Sampling Plan for Removal Site Evaluation and Supplemental Assessment, St. Regis Paper Company Superfund Site, Cass lake, Minnesota." June 23.
- Minnesota Pollution Control Agency (MPCA). 1995. "Five-Year Review Report, St. Regis Paper Company Site, Cass Lake, Minnesota." March 27.
- Minnesota Department of Health (MDH). 2003. "St. Regis Site Visit and Private Well Survey Memorandum". April 10.
- Tetra Tech EM Inc. (Tetra Tech). 2002. "Data Evaluation Report, St. Regis Company Site, Cass Lake, Minnesota." August 23.
- U.S. Environmental Protection Agency (U.S. EPA). 1985. "National Enforcement Investigation Center Policies and Procedures." U.S. EPA-330/9-78/001-R. Revised June.
- U.S. EPA. 1992. "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers." April.
- U.S. EPA. 1998. "Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites." OSWER Directive 9200.4-26. April 13.
- U.S. EPA. 1999a. "Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration." Contract Laboratory Program. Document No. OLM04.2. May.
- U.S. EPA. 1999b. "Statement of Work for Non-Time-Critical Removal Support, St. Regis Paper Company Site, MN, Revision 1." June 17.
- U.S. EPA. 2001a. "Environmental Investigations Standard Operating Procedures and Quality Assurance Manual, Section 8, Sampling of Potable Water Supplies." Region 4 Enforcement and Investigations Branch. November.
- U.S. EPA. 2001b. "Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration." Contract Laboratory Program. Document No. ILM05.2. December.
- U.S. EPA. 2002. "Statement of Work for Analysis of Chlorinated Dibenzo-P-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs)." Analytical Operations/Data Quality Center. Document No. DLM01.4. January.

U.S. Geological Survey (USGS). 1972. 7.5-Minute Series Topographic Maps of Cass Lake and Pike Bay, Minnesota, Quadrangles.

Figure 1

St. Regis Paper Superfund Site **Additions to Required Supplemental Sampling**



LEGEND	
	New Samples
	Near-Site Wells
	Adjacent Wells

APPENDIX D
SITE MAP

